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No.01

Oki Data CONFIDENTIAL

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# CX2640/C9750/ES2640 Scanner Maintenance Manual ODA/OEL/AOS

[Rev. 1]

4

3

## Related drawings

2

Drawing No.	Name	note
43627301TL	CX2640/C9750/ES2640 Scanner Disassembly for Maintenance	RoHS
43627301TR	CX2640/C9750/ES2640 Scanner RSPL	RoHS

1

BOM		Use for		Certification Body	
Rev	Date	DCO No.	Contents	Design	Approval
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Makoto Yabuki		Takashi Saito		CX2640/C9750/ES2640 Scanner	
Ryuichi Kohara				Maintenance Manual	
Check					
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[illegible]

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# 1. OVERVIEW

1.1	Related Drawings
1.2	General notes for servicing
1.3	Product Specifications
1.4	Device Configuration
1.5	Theory of Operation

This manual is intended to be used by the maintenance engineers. It describes the areas to be maintained, the installation, the disassembly, and the main trouble shooting guides.

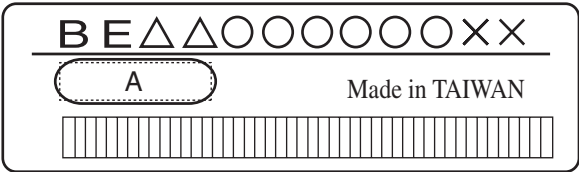
Please take your time to read this manual thoroughly to obtain comprehensive knowledge about the S9824 before serving the unit.

## 1.1 Related Drawings

The characters of the serial number label of partA of each scanner (see the following figure) should be checked.

N33136A:  
Related Drawings

43627301TR	S9824 Scanner RSPL
43627301TL	S9824 Scanner Disassembly for Maintenance



Serial Number Label

## 1.2 General notes for servicing

- (1) Before trying to disassemble the S9824, make sure the power supply cord of the S9824 is disconnected from the power outlet. Under any circumstance, do not remove or install the connectors on the S9824 with the power supply turned ON.
- (2) Use caution not to drop small parts or screws inside the unit when disassembling and reassembling. If left inside, they might cause the malfunction of the unit.
- (3) Do not pull the connector cable when disconnecting it. Hold the connector.
- (4) When carrying the scanning head unit, put it in an anti-static bag.
- (5) Keep the document table glass surface always clean. If contaminated, use a dry clean cloth for cleaning.
- (6) Use caution not to injure your fingers or hands when disassembling or reassembling the unit.

### 1.3 Product Specifications

The S9824 is designed to meet the following product specifications:

Table 1-1 Product Specifications

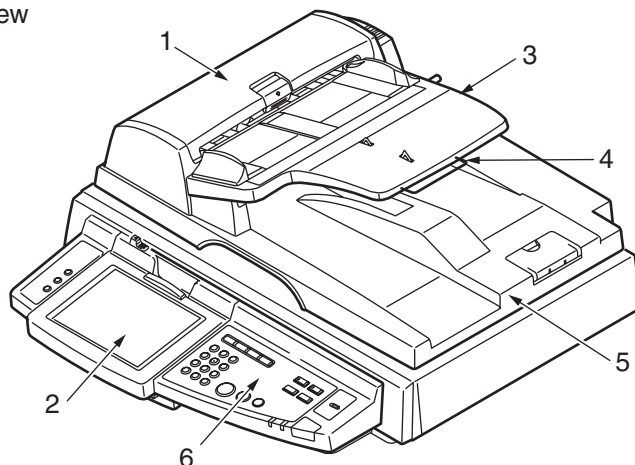
System Overview	
Dimension (mm)	670 (W) × 690 (D) × 270 (H)
Weight	14.1Kg (without ADF)
Warm-up time (scanner)	Within 30 seconds (10°C~35°C)
Optical Resolution	600dpi
Imaging depth(input)	16bit per color, 8bit greyscale
Image processor RAM	128MB
ADF Pad Life (scanner)	100,000 scan pages
ADF Roller Life (scanner)	200,000 scan pages
Imaging depth(input)	16bit per color, 8bit greyscale
Imaging depth(output)	8bit per color, 8bit greyscale
Scan control Core CPU	32 bit Tensilica
MTTR	< 30 min
Scan (FB) life ADF life	F/B: 200,000 scan pages; ADF: 800,000 scan pages
Scanner duty	ADF:80% F/B: 20%
MTBF	ADF: 5000 hours F/B: 5000 hours
Daily duty cycle	2,500 pages per daily
ADF	
Scanning area	11.8" × 17"
Document input thickness	16 ~ 28lb.
Weight	7.2Kg

## 1.4 Device Configuration

This section describes the device configuration of the multifunction product.

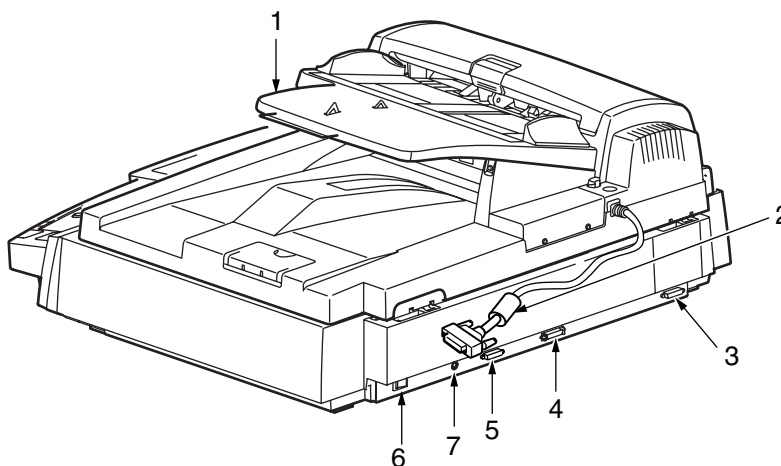
### 1.4.1 External View

#### 1.4.1.1 The Front View



- |                    |                      |
|--------------------|----------------------|
| 1. ADF Front Cover | 4. ADF Paper Support |
| 2. LCD-display     | 5. Document(s) Cover |
| 3. ADF Paper Tray  | 6. Control Panel     |

#### 1.4.1.2 The Rear View

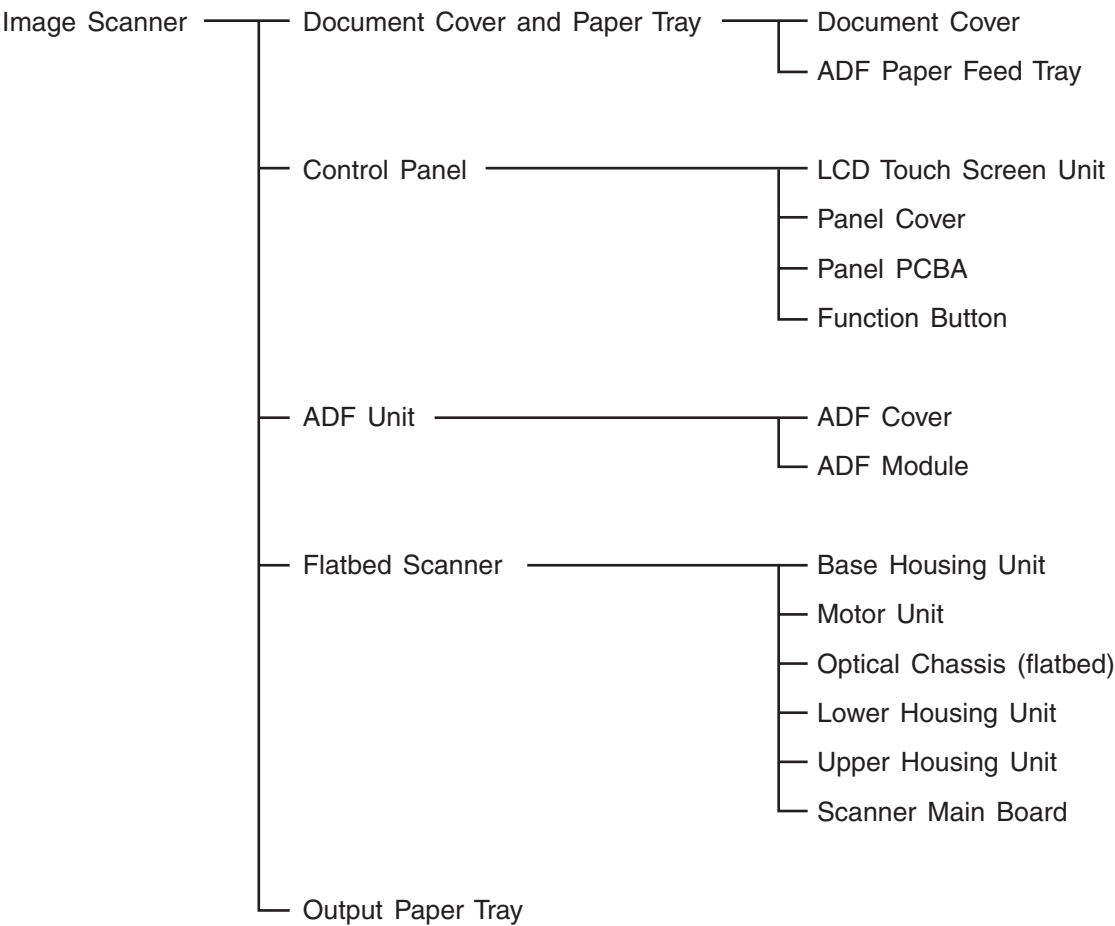


- |                    |                                |
|--------------------|--------------------------------|
| 1. ADF Paper Tray: | To hold multi-page document.   |
| 2. ADF Cable:      | To connect ADF with main unit. |
| 3. Control Port:   | To connect printer.            |
| 4. ADF Port:       | To connect ADF cable.          |
| 5. Data Port:      | To connect printer.            |
| 6. Power Switch:   | Turn on and off the machine.   |
| 7. Power Jack:     | To connect power.              |

Figure 1-1 S9824 Outer View

### 1.4.2 Mechanical Configuration

The equipment consists of the following components:





## 1.5 Theory of Operation

### 1.5.1 Introduction

This section explains the theory of operation of this scanner.

The microprocessor in this scanner controls the following functions.

- Interface
- Scanning module drive
- ADF drive
- Reading mode (reading density, document size, half-tone) selection.

Figure 1-2 shows the operation mode sequence.

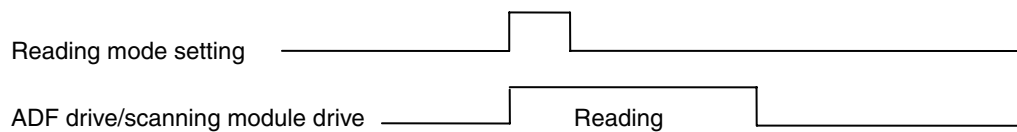


Figure 1-2 Operation sequence

### 1.5.2 Mechanical Section Operation

#### 1.5.2.1 Scanning module drive

The carrier is driven by a 2-phase stepping motor. The stepping motor has a rotation of 1.8° (full step). And the use of micro-stepping control technique can work the motor to move the scanning module at 1/600 inch/step.

#### 1.5.2.2 ADF mechanism operation

The ADF is driven by a 2-phase stepping motor. The stepping motor has a rotation of 1.8° (full step). The use of micro-stepping control technique enables the motor to move the paper on the ADF at 1/300 inch/step.

### 1.5.3 System Description

The S9824 is a duplex scanner which can scan both top and bottom side in a document. It includes one main control board, one optical module, one ADF module and one LCD panel.

#### 1.5.3.1 System Diagram

Figure 1-3 shows the system block diagram.

The main control board controls all the modules built up the S9824. It includes a RISC. Tensilica as the main controller, one Flash Memory as program area and one SDRAM as working space, two ASIC for flatbed and ADF image processing and each have external 128MB SRDRAM for data processing, two A/D converter for processing flatbed and ADF CCD signals input, two sets of motor drivers for driving flatbed and ADF motors.

The power is an external 24V/4.0A power adapter for the scanner. There are some different values inside the scanner.

- +24V Power directly comes from the power adapter and used for flatbed and ADF motor.
- +2.5V Power converter from AME8810DEGT to supply FB ASIC and ADF ASIC.
- +5V Power converter from ASIC1563 to supply all 5V logic.
- +3.3V Power converted from LM ASIC1596 to supply FB ASIC, ADF ASIC, DRAM, FLASH and some 3.3V logics.

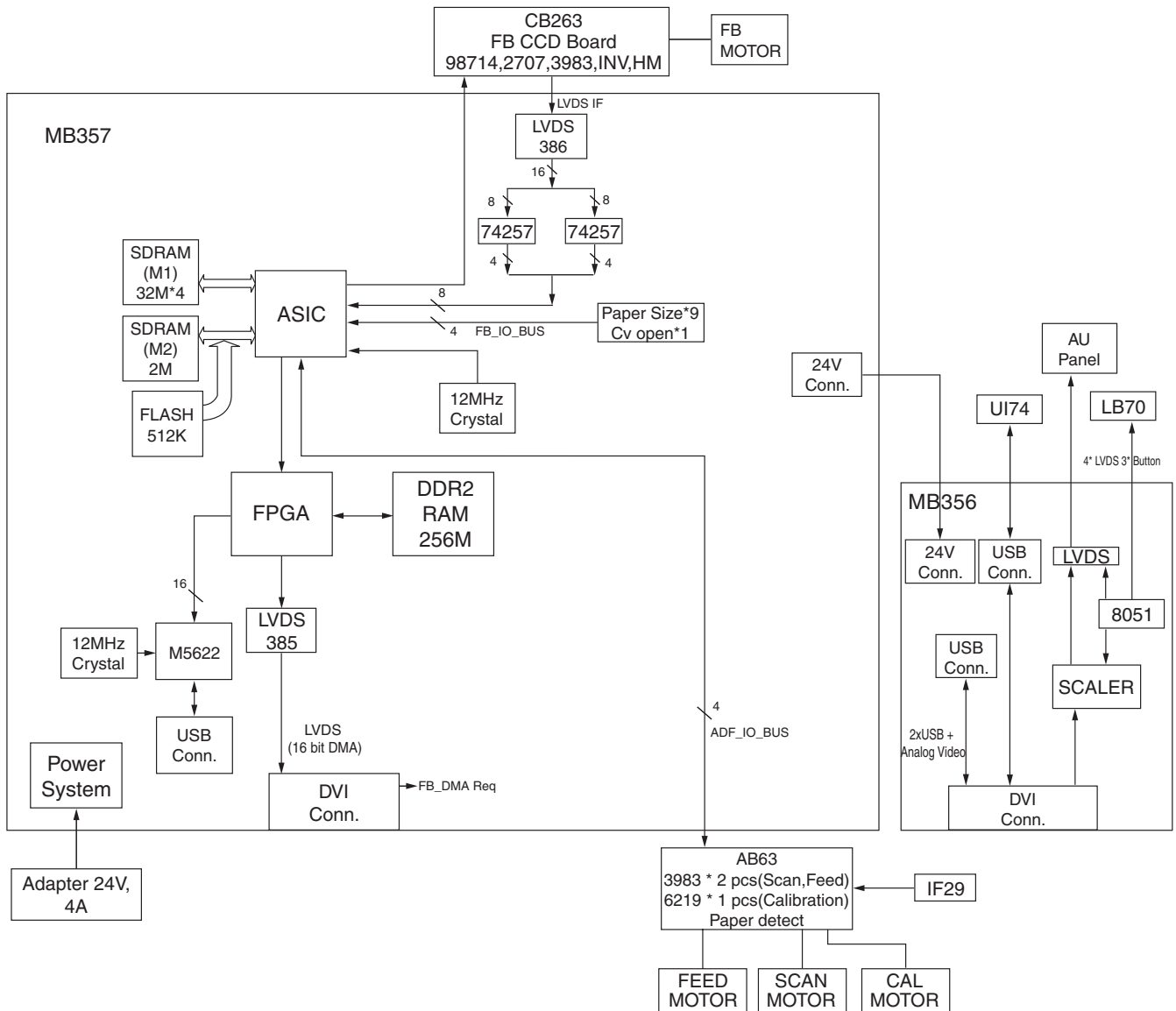


Figure 1-3 Scanner Block Diagram

### 1.5.3.2 Video circuit:

The video circuit of this scanner includes: CCD driving circuit, CCD signal processing circuit.

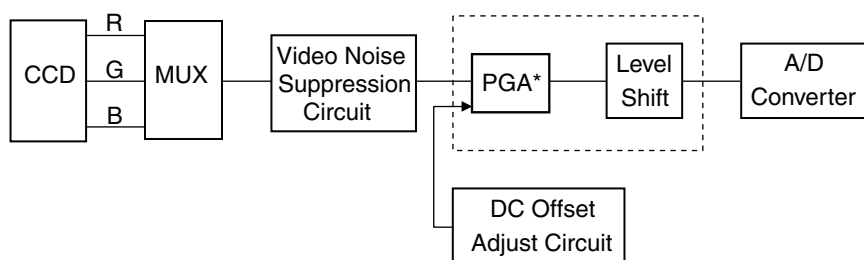
#### 1 CCD Driving Circuit

The CCD driving circuit is used to generate correct signals to the CCD, so that the CCD may generate the correct image data.

Pin assignment for Flatbed Video Circuit J8

Pin No.	Name	Function
1	INV GND	Inverter Ground
2	24V INV	Inverter 24V Power
3	24VM	Motor 24V Power
4	MGND	Motor Ground
5	MGND	Motor Ground
6	VREF1	Motor Current Control1
7	VREF2	Motor Current Control2
8	DIR	Motor Direction Control
9	STEP	Motor Step Signal
10	M SLP N	Motor Sleep Control
11	MS1	Motor Mode Control1
12	MS2	Motor Mode Control2
13	DGND	Digital Ground
14	5VD	+5V Power
15	RST N	Motor Reset
16	SH REQ	SHift Control
17	SDATA	AFE Serial Interface Data
18	SCLK	AFE Serial Interface Clock
19	SEN N	AFE Serial Interface Enable
20	DGND	Digital Ground
21	TXOUT0+	LVDS Data0+
22	TXOUT0-	LVDS Data0-
23	TXOUT1+	LVDS Data1+
24	TXOUT1-	LVDS Data1-
25	TXOUT2+	LVDS Data2+
26	TXOUT2-	LVDS Data2-
27	TXCLK+	LVDS Frame Clock+
28	TXCLK-	LVDS Frame Clock-
29	INCLK+	LVDS Clock input+
30	INCLK-	LVDS Clock input-
31	HMSEN	Home Position Sensor
32	10V CCD	CCD Power

## 2. CCD signal processing circuit



The video noise suppression circuit is to eliminate the reset noise and low frequency noise of CCD and then PGA performs video gain control. The "level shift" circuit is used to bias the PGA output to satisfy the reference bottom requirement of the A/D converter. The "DC-OFFSET Adjust" circuit is used to adjust the bias level of video signal.

\* PGA: Programmable gain amplifier

### 1.5.3.3 Sensor input

The sensor input includes home position sensor and ADF cover sensor.

#### 1. Home position sensor

The home position of the carrier motor is detected by photo sensor. The photo transistor transmission to the photo sensor receiver circuit is shown below.

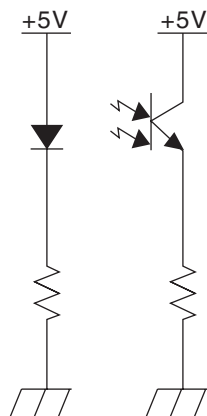


Figure 1-4 Home position sensor

The home position is detected when the carrier passes between the LED and the photo transistor.

#### 2. ADF cover sensor

The operation of the ADF cover sensor is the same as that of the home position sensor.

## 2. INSTALLATION

- 2.1 Precautions of Installation
- 2.2 Unlocking Your Scanner
- 2.3 Setting up the ADF Paper Tray
- 2.4 Placing Your Original

This chapter explains the unpacking procedure, installation procedure and confirmation of operation.

### 2.1 Precautions of Installation

Pay attention to the following matters before unpacking and installation.

- Do not install in a place where vibration may occur.
- Keep the scanner out of direct sunlight. Do not install near a heat source.
- Do not place the scanner around materials which shut off the circulation of air.
- Do not install in a humid or dusty place.
- Do not use the wall socket with connecting devices which may generate noise, for example, air-conditioner, etc.
- Use a suitable AC power source.
- Place the scanner on a level surface.

## 2.2 Unlocking Your Scanner

The scan unit is locked during transport to protect the scanning mechanism from being damaged. Be sure to unlock the scan unit before using the machine.

- 1) Locate the lock switch on the left corner of the machine.
- 2) Move the lock switch to the "Unlocked Position".
- 3) Put lock switch cover.

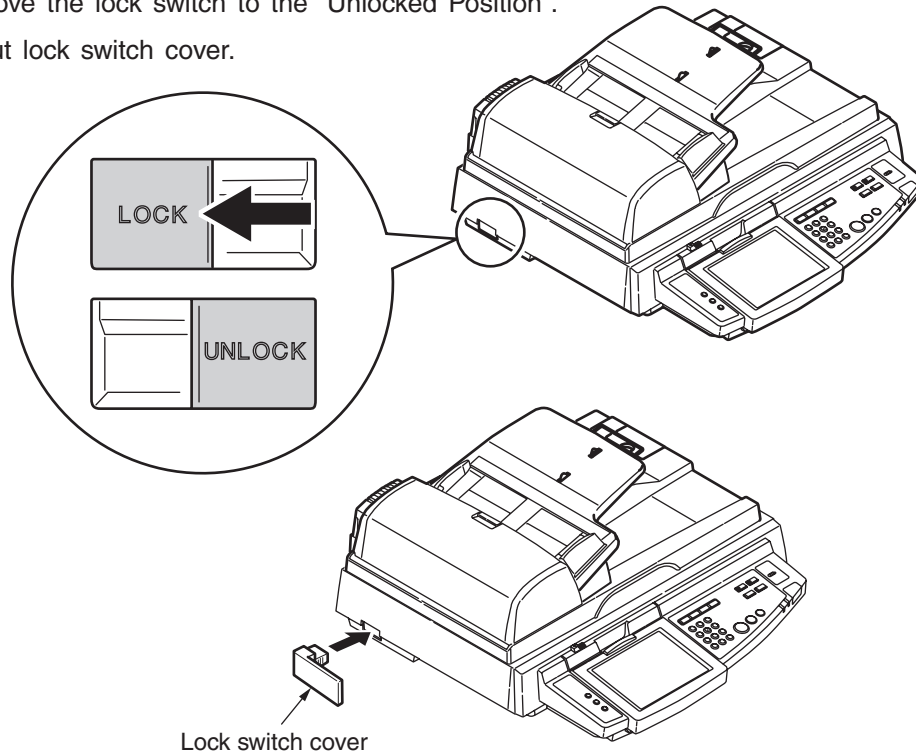
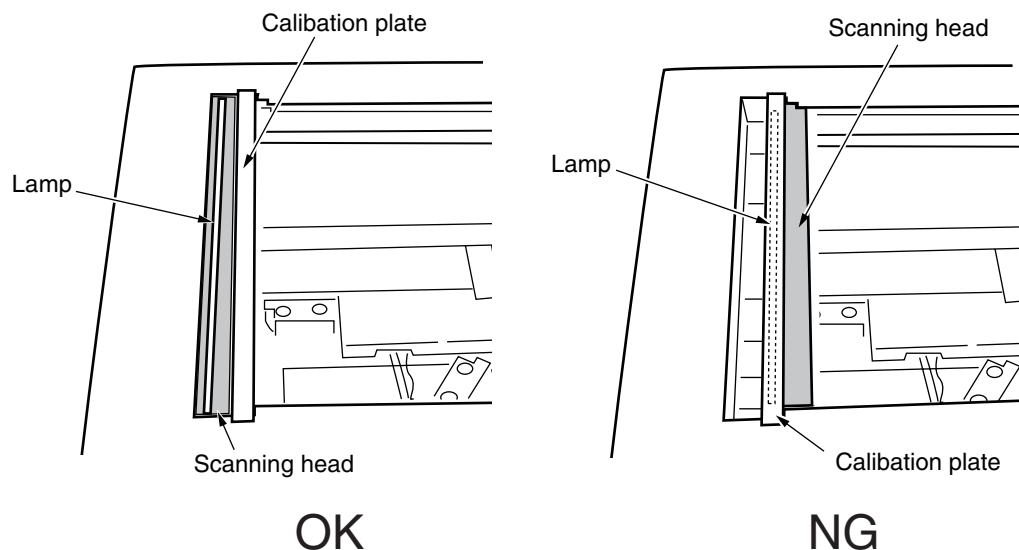


Figure 2-1 Unlocking the Scanning Unit

**Note:**

If you need to move your S9824 for repair or any other reason, be sure to lock your S9824 before moving. To lock your S9824, please do the following,

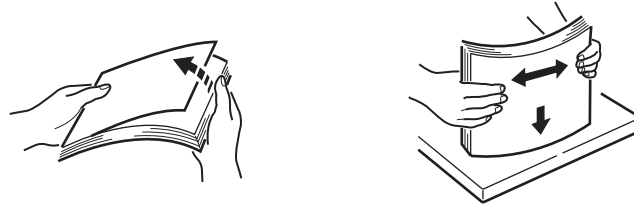
1. Turn off your S9824.
2. If the scanning head is not located at the left end, turn the S9824 on to return the scanning head to the left end. After the scanning head is returned to the left end, turn the power supply off.
3. Move the lock switch to the "Locked Position".



## 2.3 Placing Your Original

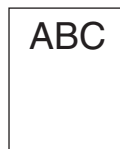
### 2.3.1 In the Auto Document Feeder

1. Make sure your document is free of staples, paper clips and is not tore out.
2. If you have multiple pages, fan your document(s) to avoid occasional paper jam. The ADF holds up to 50 pages of A3 paper or 100 pages of other size paper at one time.



3. Place your document(s) with the text FACE UP in the ADF and make sure that the top of the pages is fed in first.

Setup orientation of papers



Face Up

Paper Guide

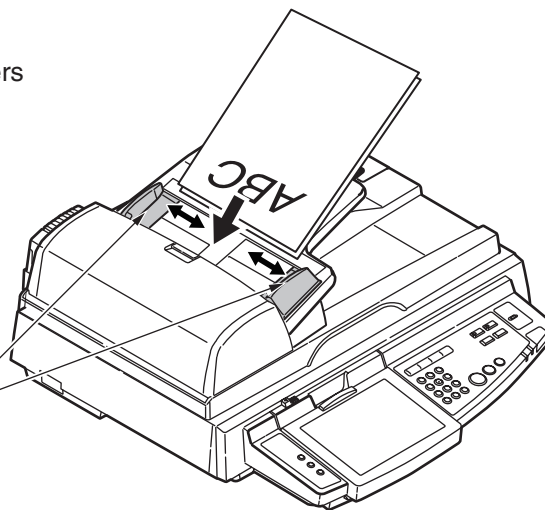


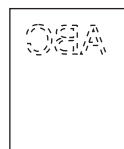
Figure 2-3 Loading Paper from the ADF

4. Adjust the Paper Guides to center the document(s) in the ADF.

### 2.3.2 On the Document Glass

Place your original with the text face down on the document glass.

Setup orientation of papers



Face Down

Align in the upper-left corner

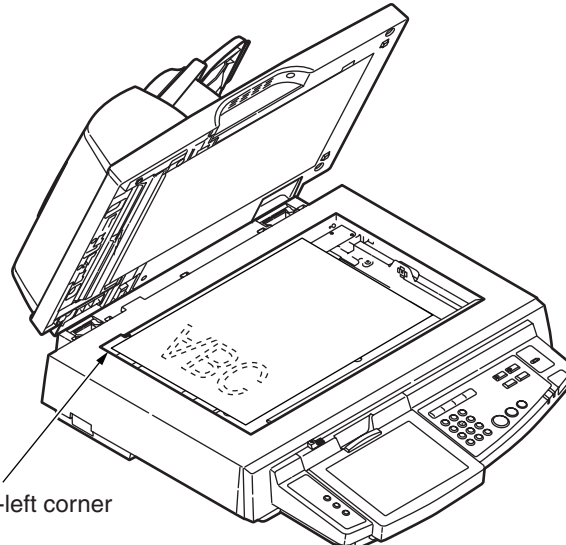


Figure 2-4 Placing Paper on the Flatbed



### 3. PROBLEM SOLVING

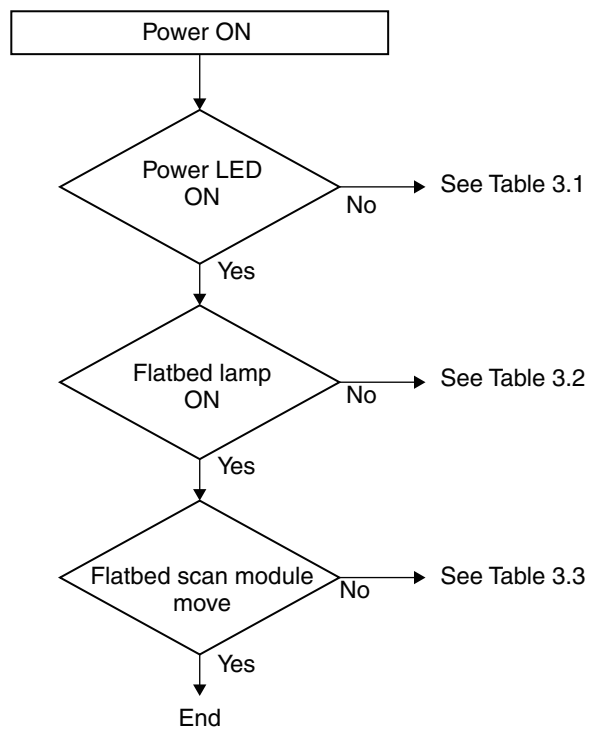
- 3.1 Diagnostics
- 3.2 Troubleshooting
- 3.3 Error Code

This chapter describes troubleshooting flowcharts and tables to isolate the problem.

#### 3.1 Diagnostics

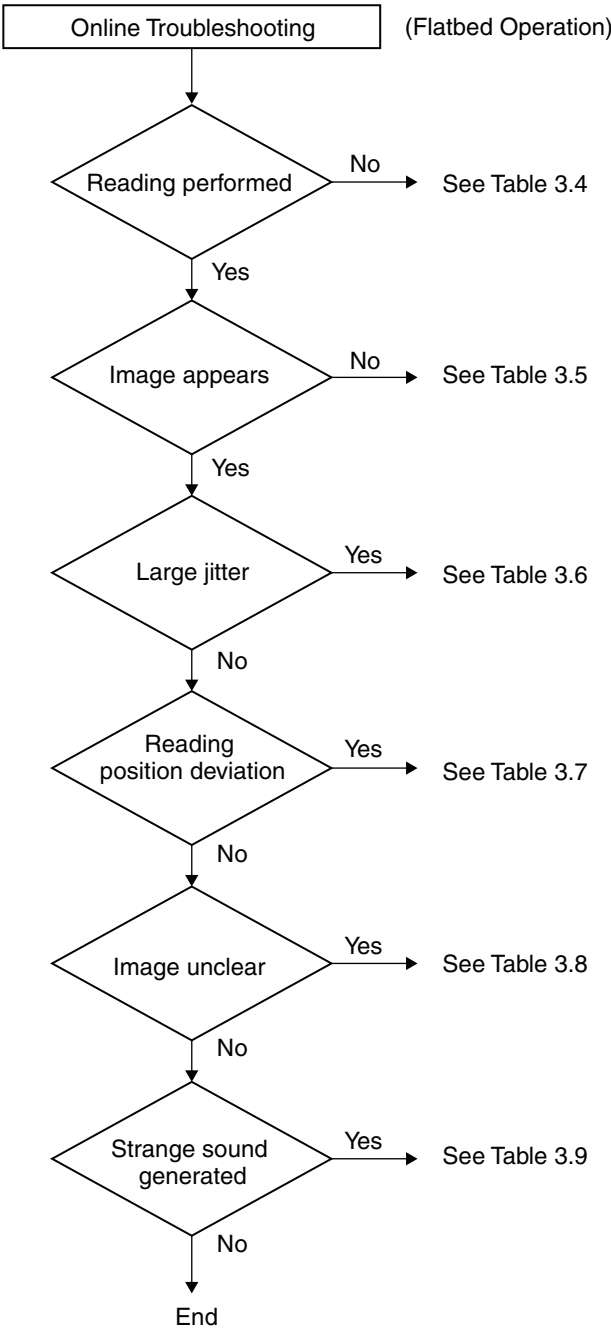
##### 3.1.1 Diagnostic Flowcharts

3.1.1.1 Troubleshooting flowchart: power on to scanner ready.



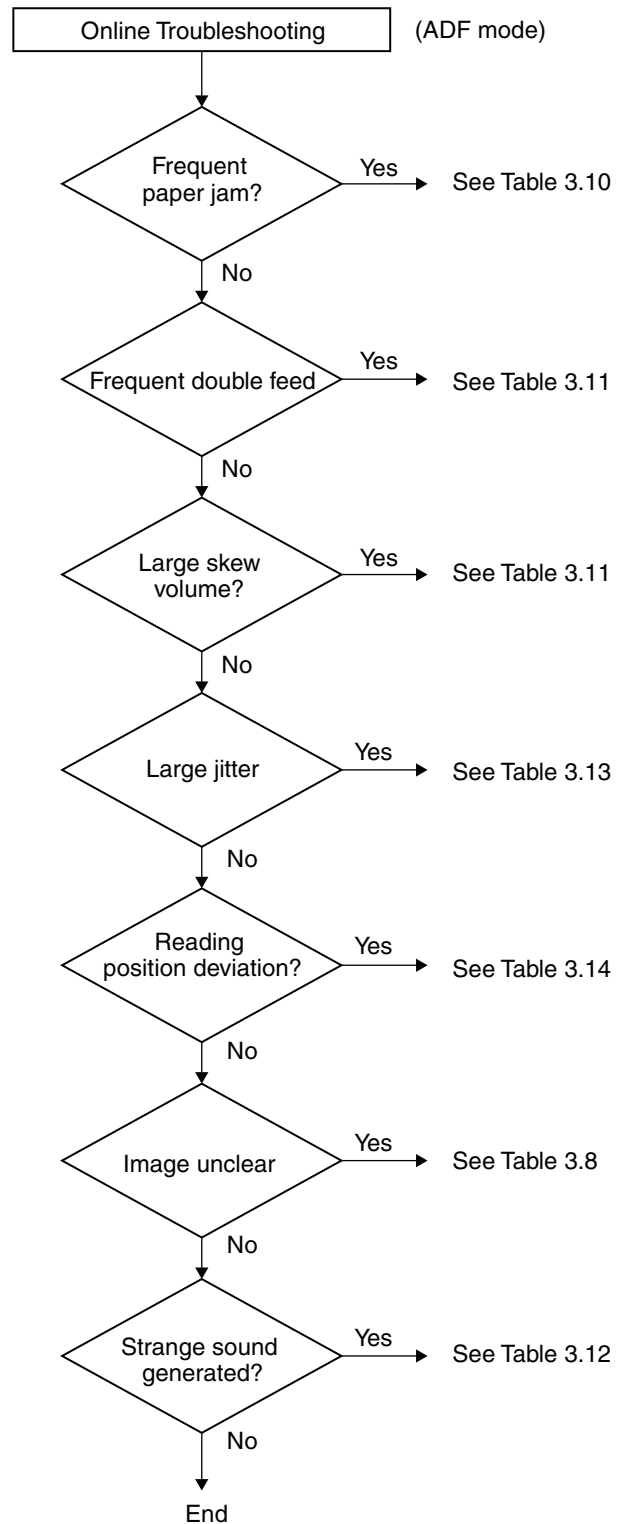
Flowchart 3-1

3.1.1.2 Troubleshooting flowchart: Flatbed operation



Flowchart 3-2

## 3.1.1.3 Troubleshooting flowchart: ADF operation



Flowchart 3-3

### 3.1.2 Tables

The tables in this section provide detailed troubleshooting information.

#### 3.1.2.1 The Power LED doesn't turn on

Table 3.1

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Unplugged from outlet	None	Visual check	Insert the AC plug into the outlet	
AC power unplugged at unit	None	Visual check	Insert the AC cable into unit	
Power switch is OFF	None	Visual check	Turn the power switch on	
Power unit AC input connector disconnected	None	Visual check	Connect the connector	
Power switch connector disconnected	Main PCB MB357	Visual check	Connect the connector J2	
Power unit output voltage failure	Power unit	Output voltage (+24V) check Refer to scation 3.3	Replace the power unit	
PCBA Failure	Main PCB MB357 Ope control PCB UI74	Output voltage (+5V) check Refer to scation 3.3	Replace main PCB or OPE PCB	
OPE control PCBA -main PCBA connection failure	Main PCB MB357 Ope control PCB UI74	Visual check	Connect the connector J13(MB355) J2(UI74)	

## 3.1.2.2 Flatbed lamp doesn't turn on

Table 3.2

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Main PCB - CCD PCB connection failure	Main PCB MB357	Visual check	Connect the connector J8	None
Inverter power failure	Main PCB MB357	Flatbed inverter power check(+24V) Refer to section 3.3	Replace main PCB	None
Flatbed scan module failure	Flatbed scan module	Visual check	Replace Flatbed unit	None
Main PCB failure	Main PCB MB357	Visual check	Replace main PCB	None

## 3.1.2.3 Flatbed scan module doesn't move

Table 3.3

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Main PCB - CCD PCB connection failure	Main PCB MB357	Visual check	Connect the connector J8	None
Motor power failure	Main PCB MB357	Flatbed motor power check(+24V) Refer to section 3.3	Replace main PCB	None
Flatbed scan module failure	Flatbed scan module	Visual check	Replace Flatbed unit	None
Main PCB failure	Main PCB MB357	Visual check	Replace main PCB	None

## 3.1.2.4 Reading is not performed

Table 3.4

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
ADF cover open	ADF cover	Visual check	Close the ADF cover	None

## 3.1.2.5 Image does not appear

Table 3.5

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
ADF cover open	ADF cover	Visual check	Close the ADF cover	None
Power supply-main control board connection failure	Main PCB MB357	Visual check	Connect the connector J4	None
Power supply fails.	Power supply	Tester check (+24V, GND) Refer to section 3.3	Replace the power supply	None
Lamp failure	Lamp	Visual check	Replace Flatbed unit	None
Inverter failure	Inverter	Visual check	Replace Flatbed unit	None
CCD board-main control board connection failure	Main PCB MB357	Visual check	Connect the connector J8	None
CCD board fails.	CCD Board	Visual check	Replace Flatbed unit	None

## 3.1.2.6 Large jitter(Flatbed)

Table 3.6

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Power supply-main control board connection failure	Main PCB MB357	Visual check	Connect the connector J4	None
Power supply fails.	Power supply	Tester check (+24V, GND) Refer to section 3.3	Replace the power supply	None
CCD board-main control PCBA connection failure	Main PCB MB357	Visual check	Connect the connector J8	None
Motor failure	Motor	Visual check	Replace Flatbed unit	None

## 3.1.2.7 Reading position deviation(Flatbed)

Table 3.7

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Power supply-main control board connection failure	None	Visual check	Connect the connector J4	None
Power supply fails	Power supply	Tester check (+24V, GND) Refer to section 3.3	Replace the power supply	None
CCD board-main control PCBA connection failure	None	Visual check	Connect the connector J8	None
Motor failure	Motor	Visual check	Replace Flatbed unit	None
Home position sensor failure	CCD board	Visual check	Replace Flatbed unit	None

## 3.1.2.8 Image unclear

Table 3.8

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Lamp too dark	Lamp	Visual check	Replace Flatbed unit	None
Dirt on Flatbed glass	Flatbed glass	Visual check	Clean the Flatbed glass with isopropyl alcohol	None
Dirt on calibration reference plate	Calibration reference plate	Visual check	Clean the calibration reference plate with isopropyl alcohol	None

## 3.1.2.9 Strange sound generated (Flatbed)

Table 3.9

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Main control PCBA failure	Main PCBA MB357	Replace the main control PCBA	Replace the main control PCBA	None
Scanning module failure	Scanning module	Check if scanning module is loose	Replace Flatbed unit	None
Dirt on rail	None	Visual check	Replace Flatbed unit	None



## 3.1.2.10 Frequent paper jam

Table 3.10

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Paper setting failure	Operation error	Is the paper correctly set in the paper chute?	Teach users to properly position the paper	None
Paper failure	Operation error	Is the specified paper used?	None	None
ADF connector slip-off	ADF unit	Visual check of motor rotation	Connect the connector	None
Pad assembly failure	Pad assembly	Check the pad assembly for wear and tear	Replace the pad assembly/ touch spring unit	None
ADF unit failure	ADF unit	Replace the ADF unit	Replace the ADF unit	None

## 3.1.2.11 Frequent double feed and skew

Table 3.11

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Paper setting failure	Operation error	Is the paper correctly set in the paper chute?	Teach users to properly position the paper	None
Paper failure	Operation error	Is the specified paper used	None	None
ADF connector slip-off	ADF unit	Visual check of motor rotation	Connect the connector	None
Pad assembly failure	Pad assembly	Check the pad assembly for wear and tear	Replace the pad assembly/ touch spring unit	None
ADF unit failure	ADF unit	Replace the ADF unit	Replace the ADF unit	None

## 3.1.2.12 Strange sound generated (ADF)

Table 3.12

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Paper setting failure	Operation error	Is the paper correctly set in the paper chute?	Teach users to properly position the paper	None
Paper failure	Operation error	Is the specified paper used?	None	None
ADF connector	ADF unit	Visual check of motor rotation	Connect the connector	None
ADF unit failure	ADF unit	Replace the ADF unit	Replace the ADF unit	None

## 3.1.2.13 Large jitter(ADF)

Table 3.13

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Power supply-main control board connection failure	Main PCB MB357	Visual check	Connect the connector J4	None
Power supply fails	Power supply	Tester check (+24V, GND) Refer to section 3.3	Replace the power supply	None
ADF-main control PCBA connection failure	None	Visual check	Connect ADF connector	None
Motor failure	Motor	Visual check	Replace ADF unit	None

## 3.1.2.14 Reading position deviation(ADF)

Table 3.14

Cause	Relevant Unit	Check Method	Maintenance Method	Remark
Power supply-main control board connection failure	Main PCB MB357	Visual check	Connect the connector J4	None
Power supply fails	Power supply	Tester check (+24V, GND) Refer to section 3.3	Replace the power supply	None
ADF- main control PCBA connection failure	None	Visual check	Connect ADF connector	None
Motor failure	None	Visual check	Replace ADF unit	None

### 3.2 Error Code

Error Codes	Lamp Blink	Sense Key	ASC	ASCQ	Comment	Change
0A980(Flatbed) SDRAM test error	1	4	60h	02h	SDRAM fail	Change scanner card
0A980(ADF) SDRAM test error	2	4	60h	03h	SDRAM fail	Change scanner card
ARM7 SDRAM test error	3	4	60h	04h	SDRAM fail	Change scanner card
A/D dark calibration error (Flatbed)	4	4	44h	00h	Flatbed error	Change Flatbed lamp mechanism or scanner card
A/D dark calibration error (ADF)	5	4	44h	01h	ADF error	Change duplex side of ADF lamp mechanism or scanner card
Home sensor or Flatbed motor error	6	4	60h	01h	Flatbed chassis did not move to proper position	If Flatbed motor not moving, change Flatbed motor or scanner card, else change Flatbed mechanism
Lamp check error (Flatbed)	7	4	60h	00h	Flatbed lamp error	Change Flatbed lamp
Lamp check error (ADF)	8	4	60h	05h	ADF lamp error	Change ADF lamp
ADF paper jam	9	3	80h	01h	OK	OK
ADF cover open	10	3	80h	02h	OK	OK
SCSI command not support	NONE	5	20h	00h	Command error	
Invalid field in CDB	NONE	5	00h	00h	Command error	

### 3.3 Check point

Check point	Relevant unit	How to check
Power supply output	Main PCB MB357	Connect with main PCB and check below point by tester J4 6pin(+24V), J4 1pin(GND)
+5V power	Main PCB MB357	Check below point by tester C35 1pin(+5V), C290 2pin(GND)
Flatbed inverter power	Main PCB MB357	Check below point by tester J8 2pin(+24V), J8 1pin(GND)
Flatbed motor power	Main PCB MB357	Check below point by tester J8 3pin(+24V), J8 4pin(GND)
ADF motor power	Main PCB MB357	Check below point by tester J11 2pin(+24V), J11 4pin(GND)

## 4. MAINTENANCE

### 4.1 Cleaning

### 4.2 Spare Part Replacement

This chapter describes methods for cleaning, and the maintenance parts replacement, adjustment and lubrication necessary for normal operation of the image scanner.

Perform preventative maintenance in the shorter term either every 6 months or every 60,000 sheets scanning.

### 4.1 Cleaning

#### 4.1.1 Cover and Glass

With soft cloth, wipe the cover and glass. If the dirt is heavy, use a neutral cleanser or alcohol. Wipe the glass carefully so no cleanser remains on the surface.

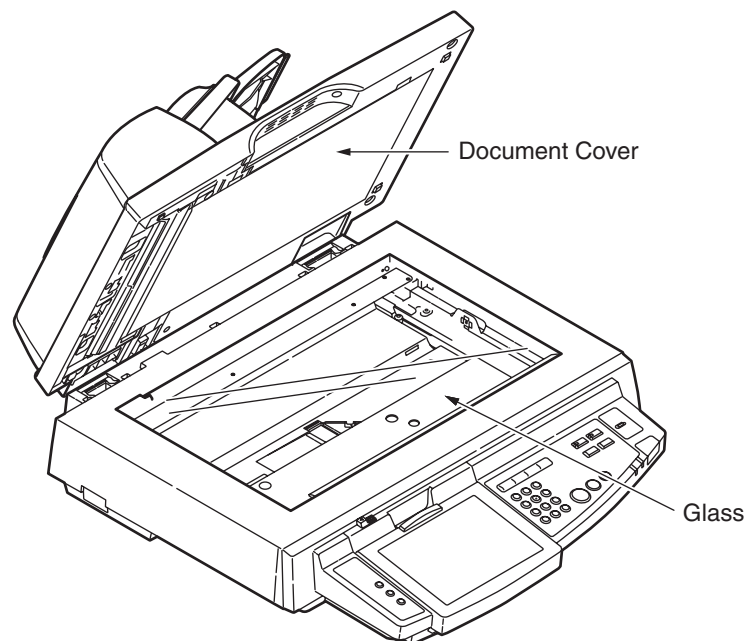


Figure 4-1 Cleaning Areas

## 4.2 Spare Parts Replacement

This section describes the spare parts replacement procedures. Depending on the part, adjustment or lubrication may be necessary, but this will be described in Section 6.

**Note:** Spare parts should be prepared based on section 1.1.

### 4.2.1 Notes on Replacement

- (1) Clean the disassembly and assembly location.
- (2) Turn off the power switch and remove the AC plug from the outlet before disassembly and assembly.
- (3) Follow the disassembly and assembly procedures. Never loosen the screws of parts that must not be disassembled.
- (4) Store the disassembled parts in a clean place to avoid loss.
- (5) After replacement, check the contacts and spare part mounting.
- (6) Assemble in the reverse order of disassembly.

### 4.2.2 Separation roller Removal and Mounting

After scanning approximately 100,000 pages through the ADF, the Separation roller may be worn out and you may experience problems with document feeding. In this case, please replace the Separation roller with a new one. For ordering the parts, please consult your nearest dealer and follow the procedure below to replace it.

5. ADJUSTMENT

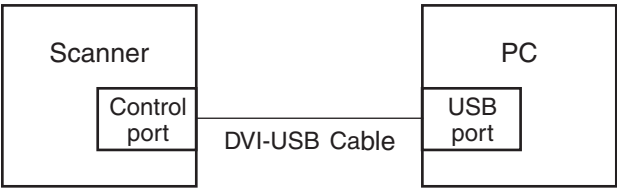
5.1 Scanner
5.2 Touch panel

5.1 Scanner

The image gradation characteristics and scanning start position and image skew for the scanner are set at the factory before shipping, and the adjustment values are stored on the main board. The adjustment values vary depending on the scanning head and scanner mechanism, and so readjustment will be necessary if any of the following components are replaced.

- 1. ADF UNIT
- 2. ASS'Y TRAY
- 3. FLATBED UNIT
- 4. ASS'Y MAIN BOARD
- 5. ASS'Y HINGE HEAVY

Adjust by connecting the scanner to the PC (see diagram below).

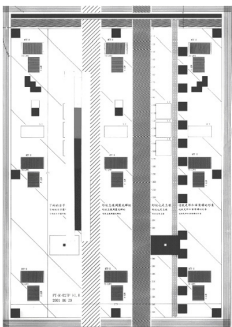


The following tools are used for adjustment.

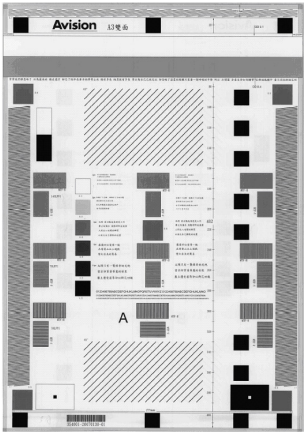
- 1. PC (OS: Windows XP)
- 2. DVI-USB cable
- 3. Scanner driver
- 4. Jig for background sheet
- 5. Flow Test tool
- 6. Deskew test charts
- 7. Learning Tool
- 8. Adjustment test charts

Table 5-1 Maintenance tools

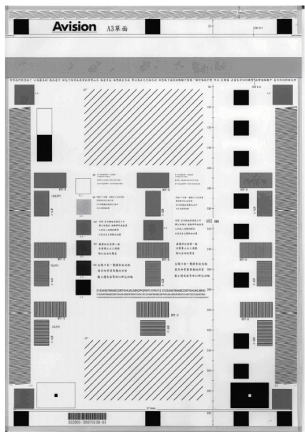
No.	Parts No.	Maintenance chart	Q'ty	Avision's Parts No.
1	43798701	CHART SET FOR Deskew-PX723 Scanner	1	255-1182-0-SP
2	43945801	CHART FOR ADF	2	255-1185-0-SP
3	43945901	CHART FOR FB	1	255-1184-0-SP
4	43946001	DVI-USB Cable	1	104-6039-09-SP
5	43951301	Jig left	1	051-4369-0-SP
6	44000801	Jig rear	1	051-4370-0-SP



No.1



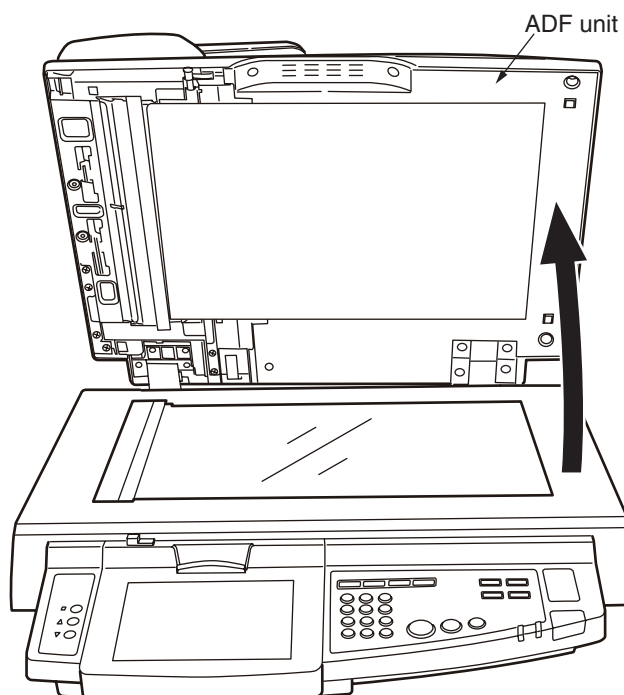
No.2



No.3

## 5.1.1 Flow Test for deskew

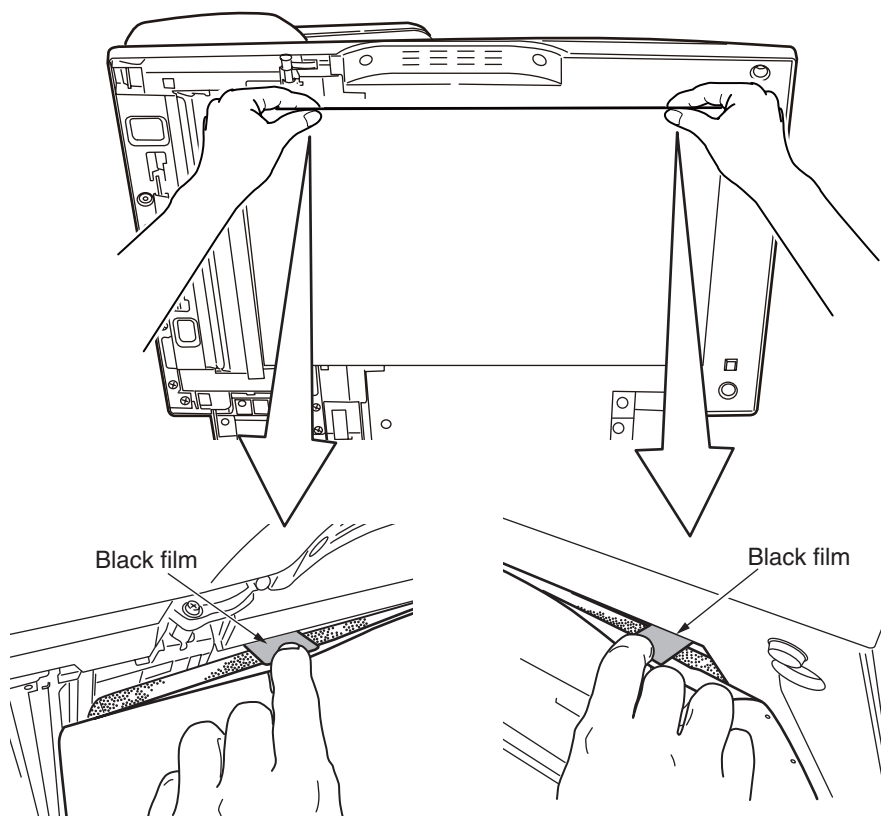
- (1) Please open ADF unit



- (2) Please catch the black film tab and peel off background sheet.

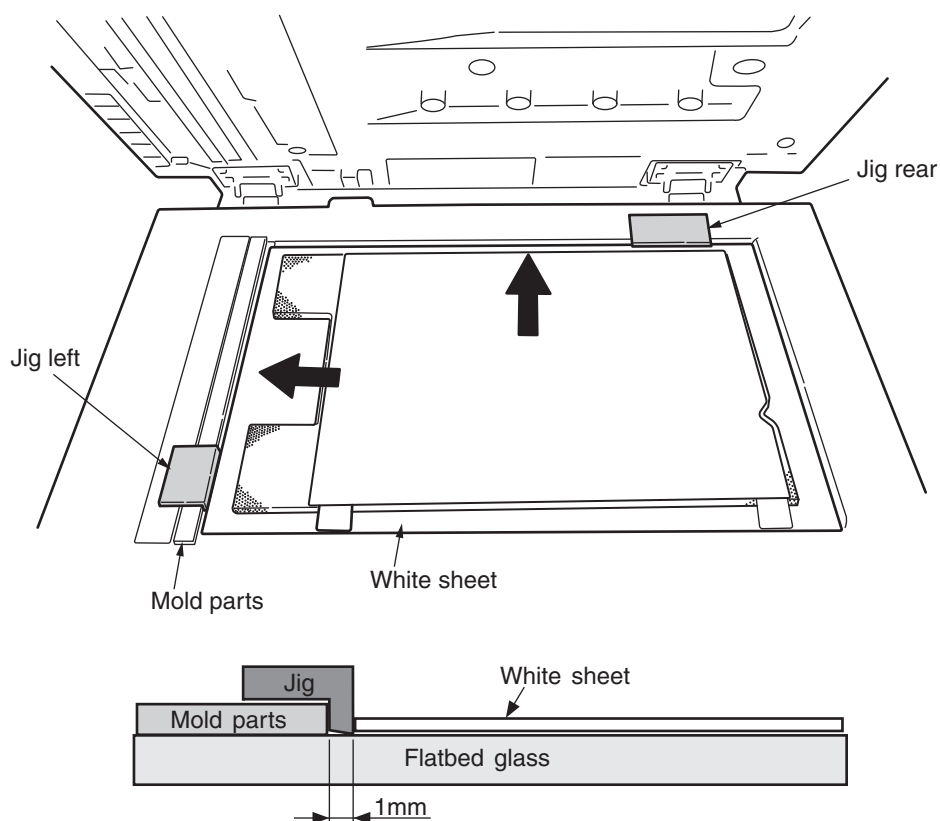
\*Be carefully not to bend white sheet.

\*Don't catch any portions other than the black film tab.

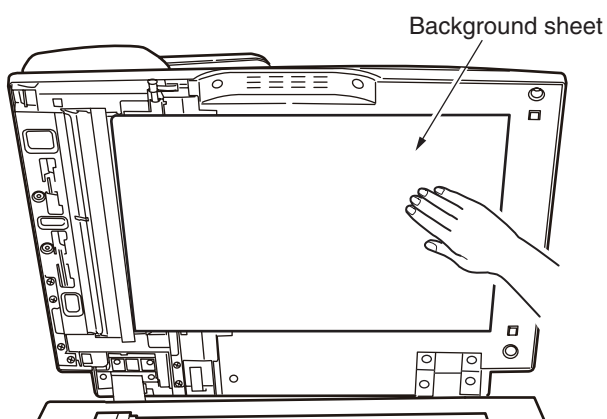
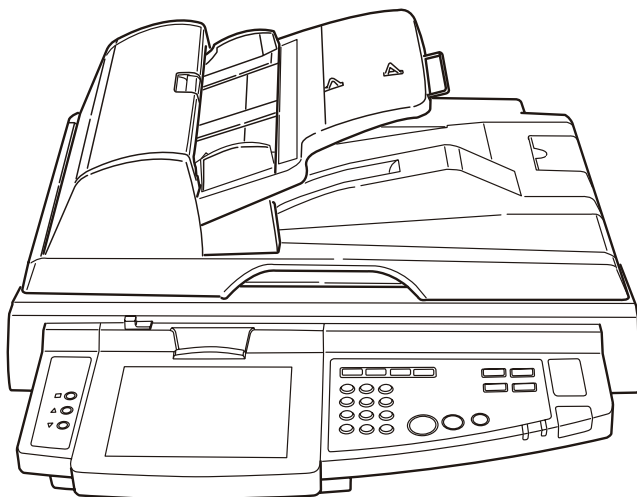




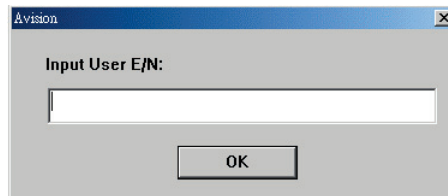
- (3) Please put the background sheet on flatbed glass with 2 jig to make 1mm gap between white sheet and mold parts.



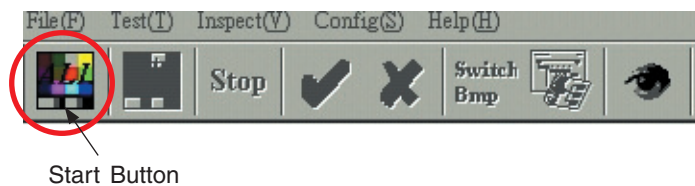
- (4) Please close ADF unit, then open ADF and push the background sheet.



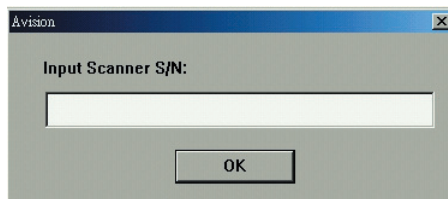
- (5) Install the scanner driver on the PC.
- (6) Install the Flowtest tool on the PC.
- (7) Connect the PC to the scanner control port using the DVI-USB cable.
- (8) Launch the FlowTest Tool
- (9) Input User E/N : test



- (10) Select scanner : OKI S9824
- (11) Click on Start Button



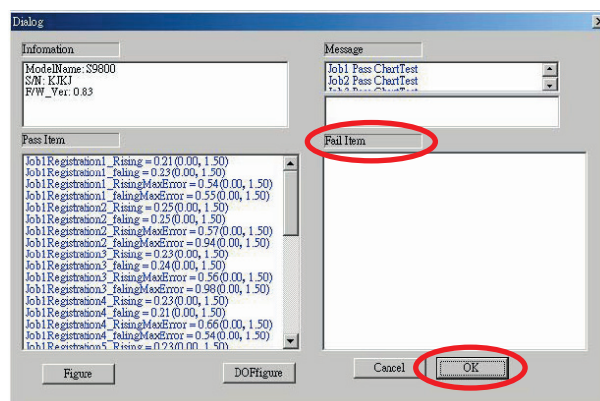
- (12) Input Scanner S/N



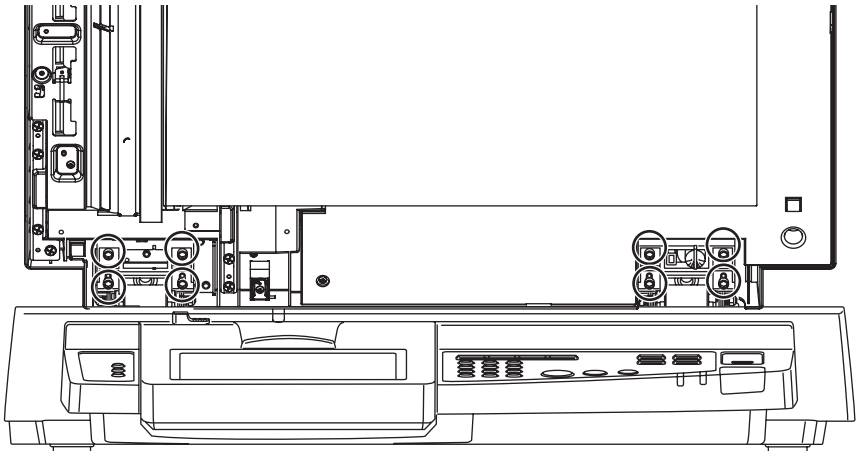
- (13) Put in Deskw Test Chart for ADF (Letter LEF)
- (14) Click on ' 確定 ' Button.



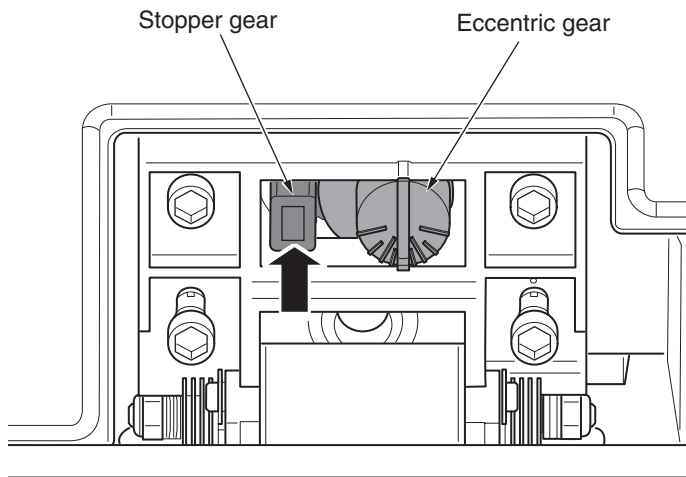
- (15) Please check test result.  
**Note:** You can find test data from path C:\¥FLOWTEST¥S9824-2¥200XXXXX.csv
- (16) If test result is OK, click OK button.  
 If test result is NG, please go next step.



- (17) Please put paper on the glass to prevent the glass from being scratched by hexagon wrench.
- (18) Loose eights screws by hexagon wrench (Don't take out)



- (19) Push the stopper gear, then rotate the eccentric gear by coin and so on.



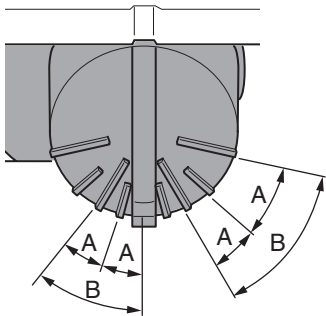
Please refer to the table below for the deskew amount.

**Note:** Please adjust the eccentric gear at the position in which the stopper gear return.

Table 5.1 Deskew amount

	A	B
clockwise	0.5mm	1.0mm
counterclockwise	-0.5mm	-1.0mm

**In case skew result is plus,  
please turn eccentric gear clockwise.**

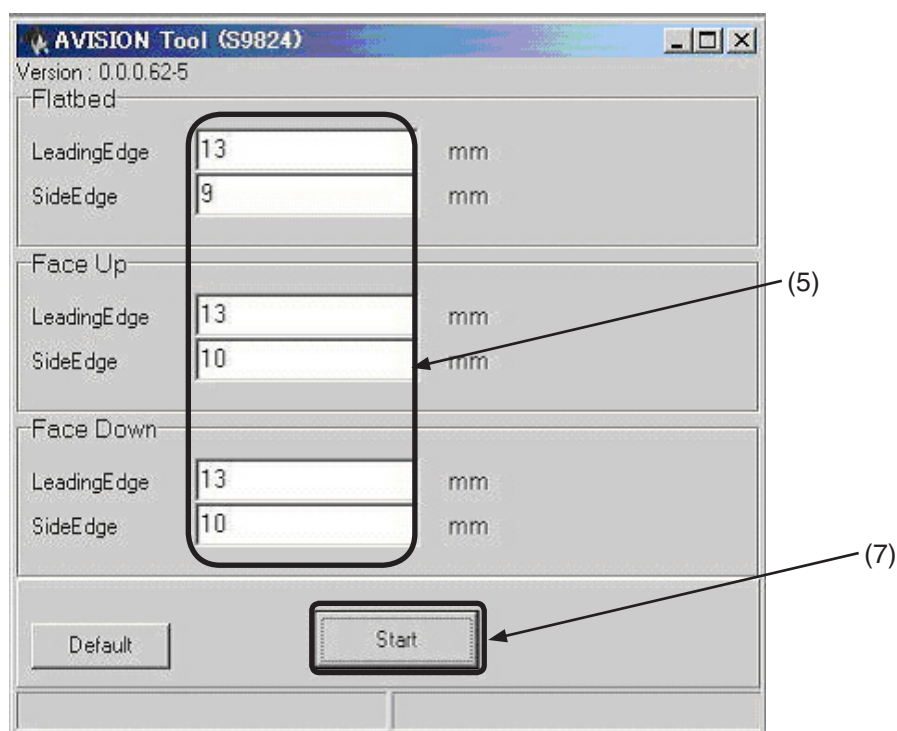


- (20) After fix eight screws, please adjust the background sheet again from (1).
- (21) Then please test again from (7).

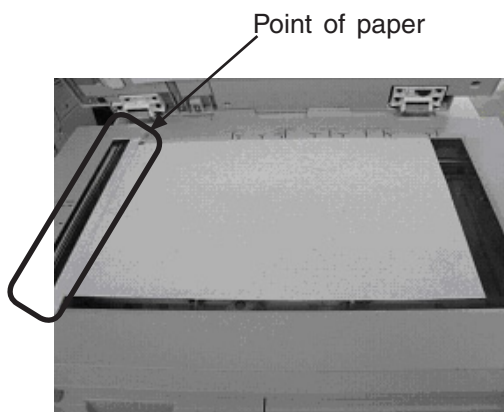
### 5.1.2 Adjustment method (learning)

- (1) Install the scanner driver on the PC
- (2) Install the Learning Tool on the PC
- (3) Connect the PC to the Scanner control port using DVI-USB cable.
- (4) Launch the Learning Tool
- (5) Input below value

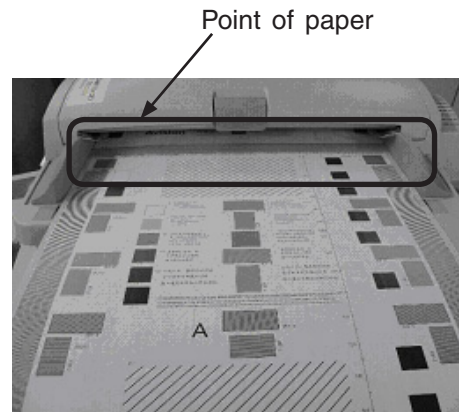
Flatbed	Leading Edge	13
	Side Edge	9
Face Up	Leading Edge	13
	Side Edge	10
Face Down	Leading Edge	13
	Side Edge	10



- (6) Place the flatbed learning chart on the document glass. Place the ADF learning chart on the ADF.



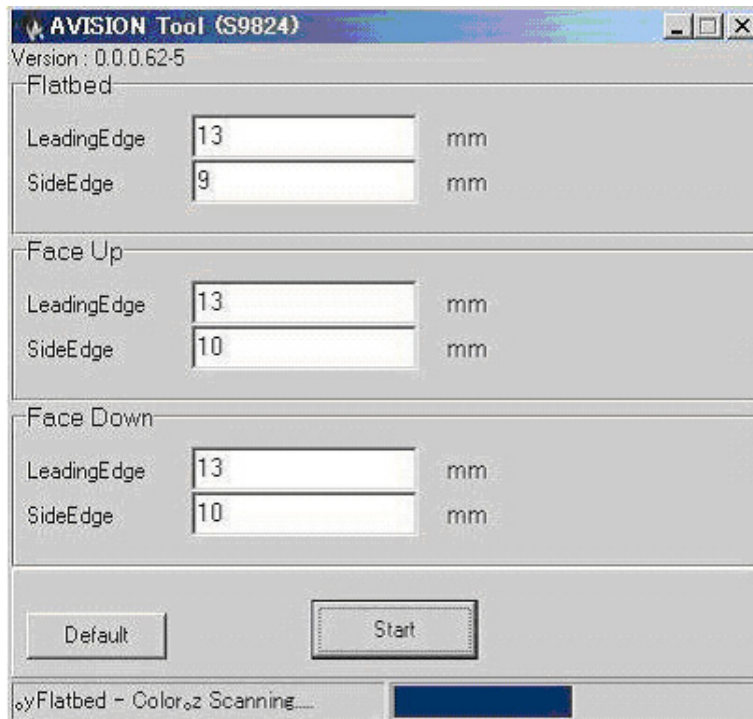
Flatbed setting position



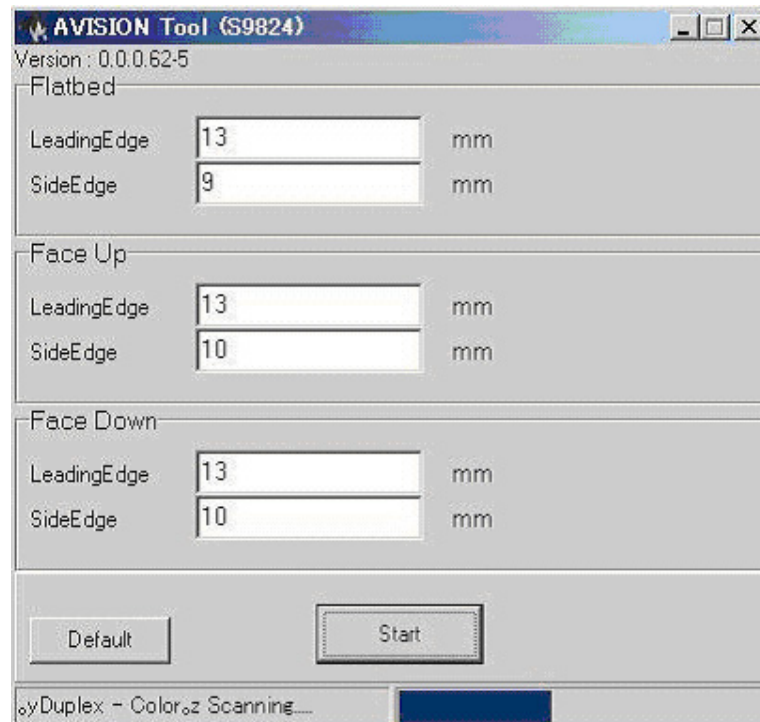
ADF setting position

- (7) Click Trigger Learning

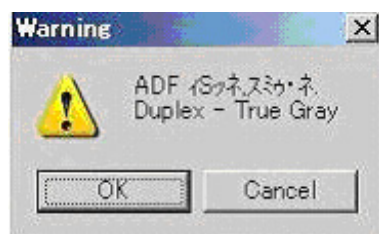
- (8) Flatbed scanning start automatically. Below message will be displayed during scanning.



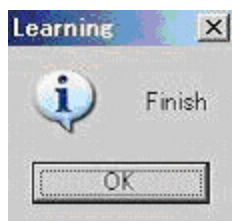
- (9) After flatbed scanning is finished, ADF scanning start automatically. Below message will be displayed during scanning.



- (10) After ADF scanning is finished and below message will be displayed, please place chart on ADF again.



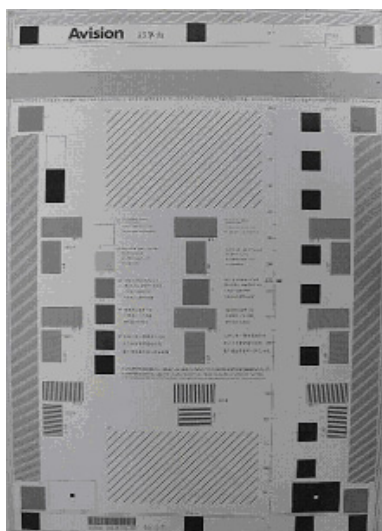
- (11) Click OK
- (12) Repeat step9.
- (13) Below message will be displayed after 3rd ADF scanning is finished.



- (14) After learning, please check image position by copy.

Flatbed learning chart

Face Up

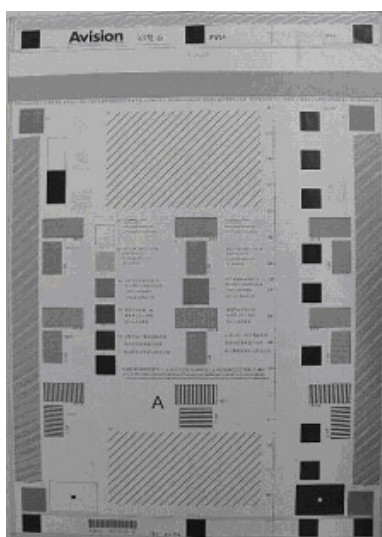


Face Down

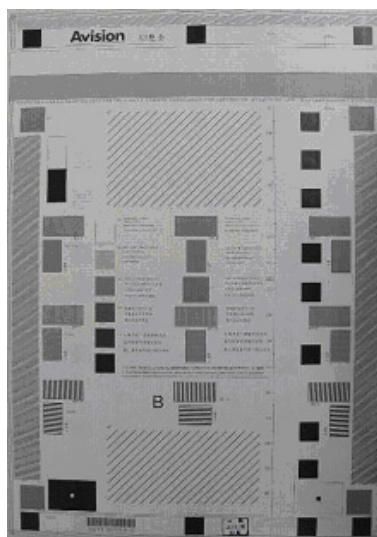


ADF learning chart

Face Up



Face Down

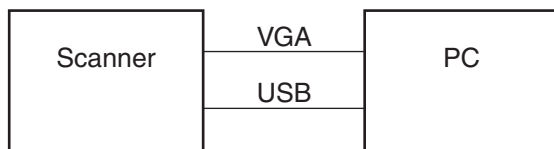




## 5.2 Touch panel

The touch detection position on the touch panel is adjusted at the factory before shipping to coincide with the screen display position. The touch detection position can however be adjusted using the method described below.

Adjust by connecting the scanner to the PC (see diagram below).



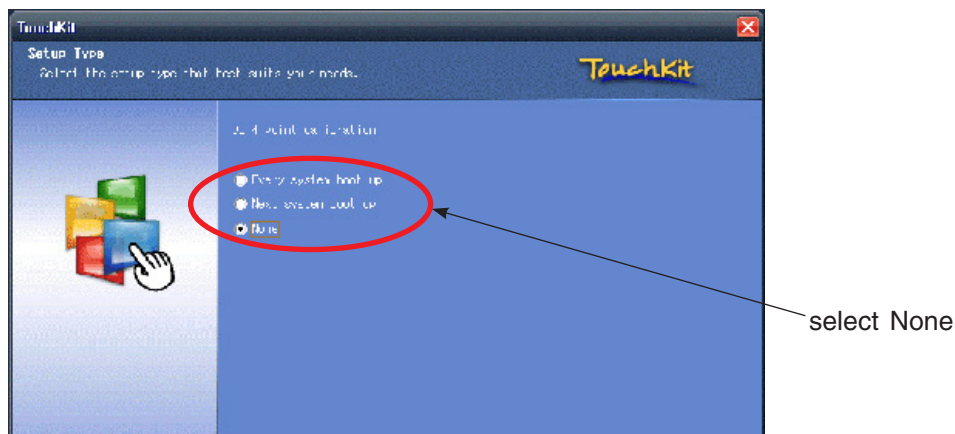
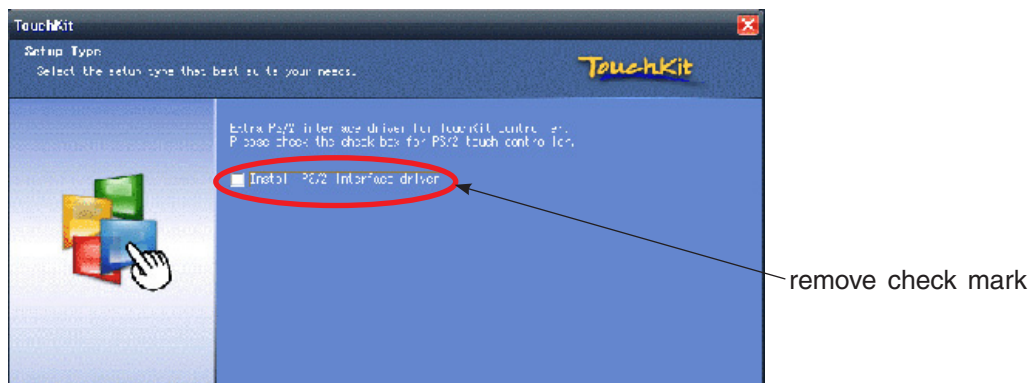
The following tools are used for adjustment.

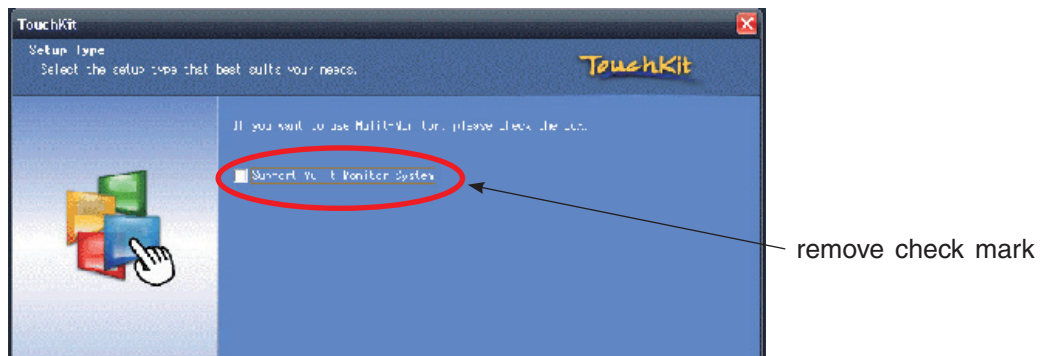
1. PC (OS: Windows XP)
2. VGA cable
3. USB cable
4. Touch panel driver

### Adjustment method

1. install touch panel driver to PC (only for first time) uncompress driver file and run setup.exe  
file name : All\_In\_One\_2k\_XP\_Vista\_5.0.0.5017.zip

please select below option in install procedure



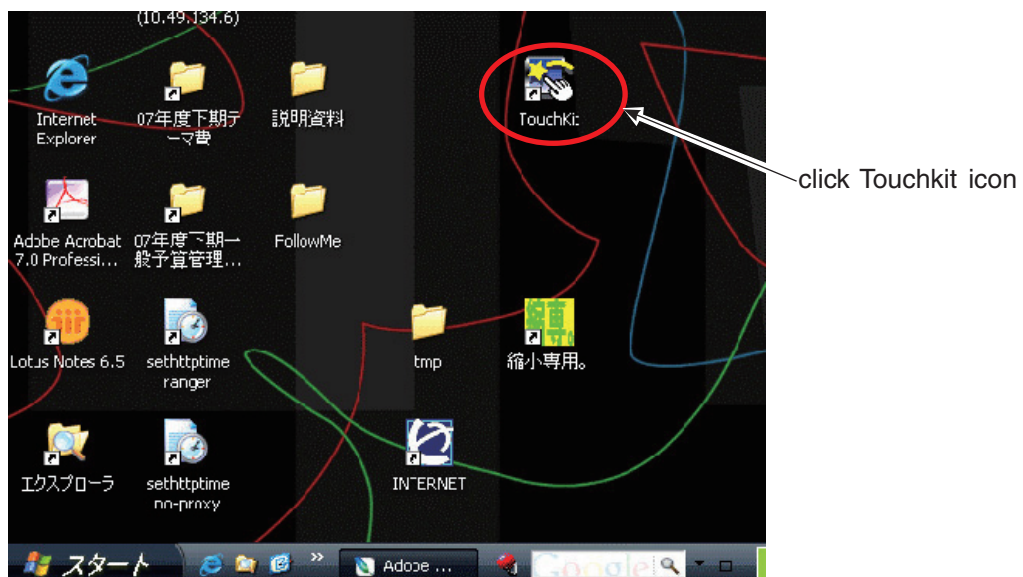


- connect scanner and power on  
before connecting scanner with PC, please change PC screen resolution to 800pixel x 600pixel, 60Hz.  
please connect scanner with PC via below cable.

cable for connecting  
between scanner and PC

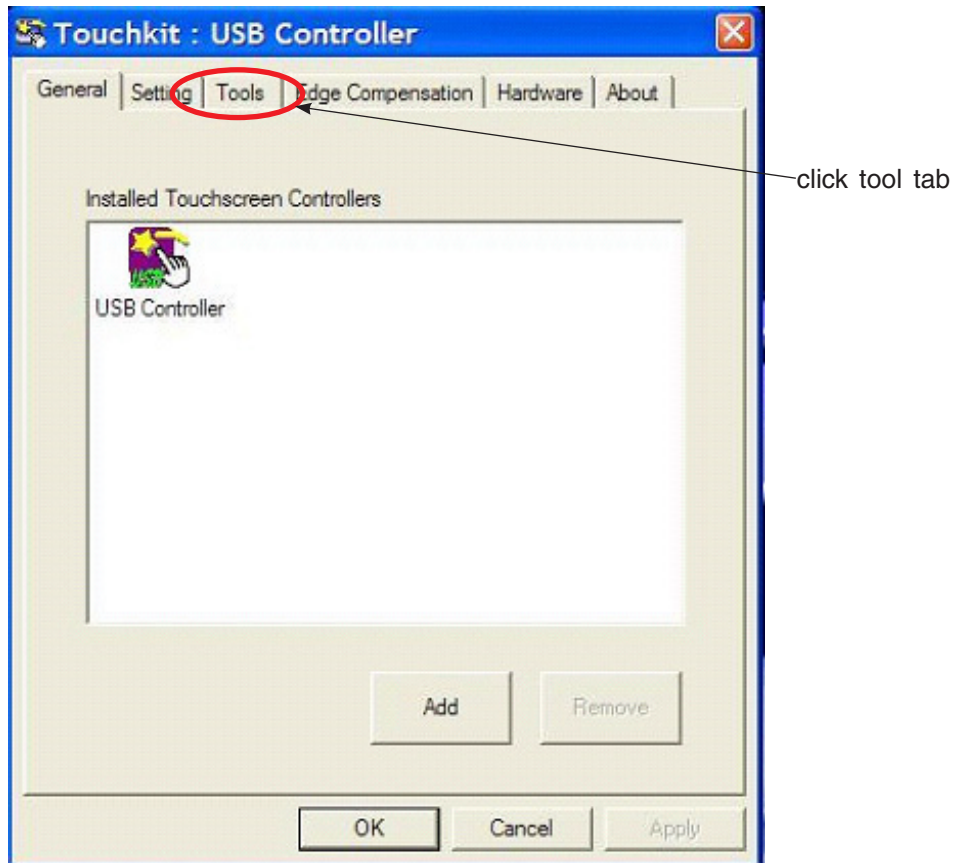


- run touchkit

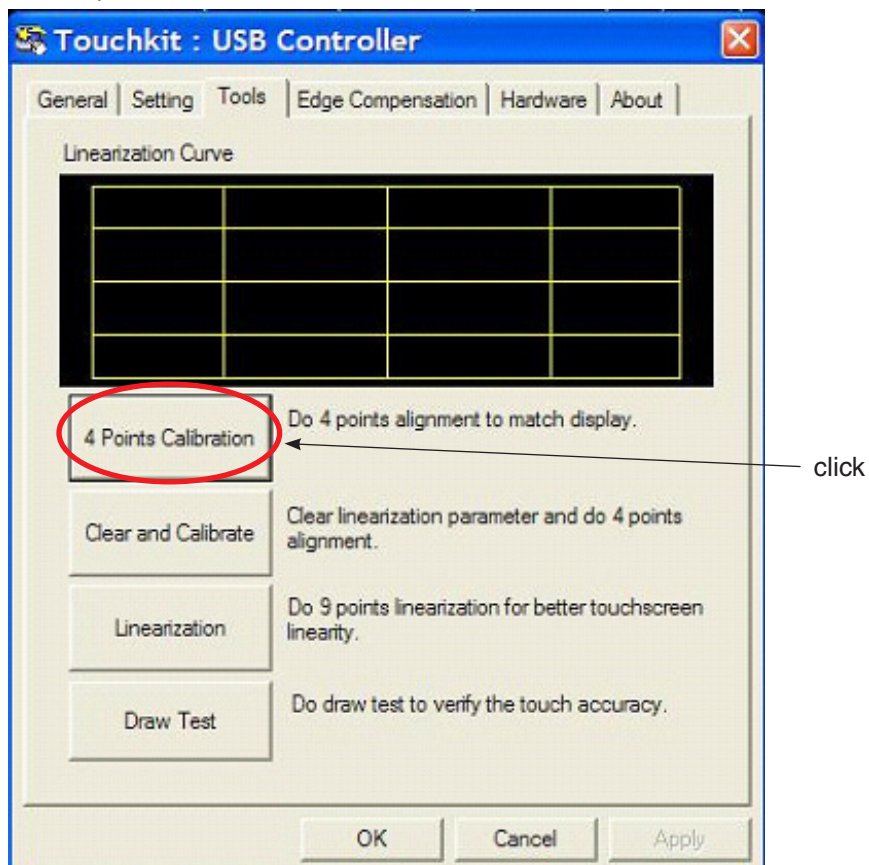




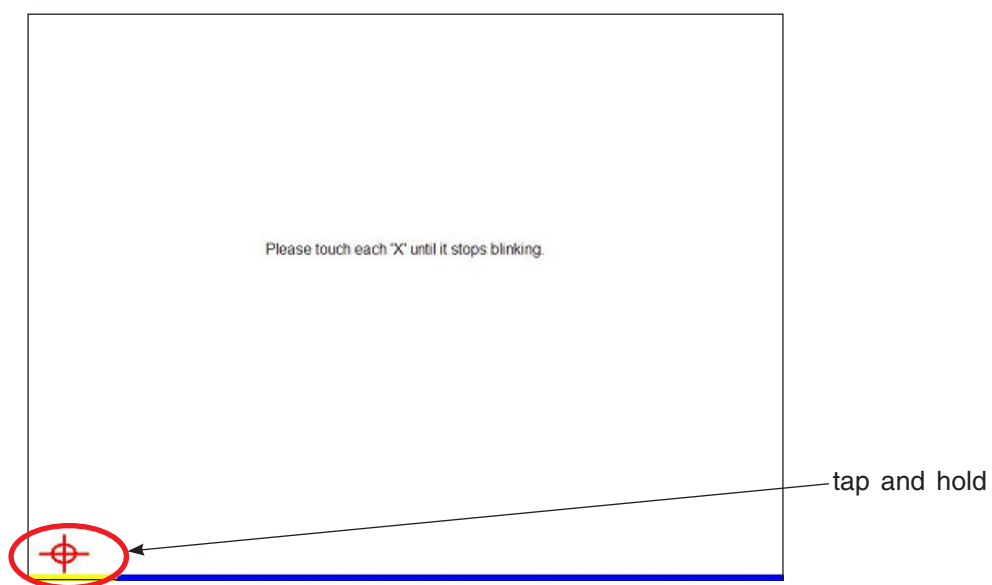
4. click tool tab



5. click 4 point cal.



6. tap and hold center of 1st circle until circle disappear



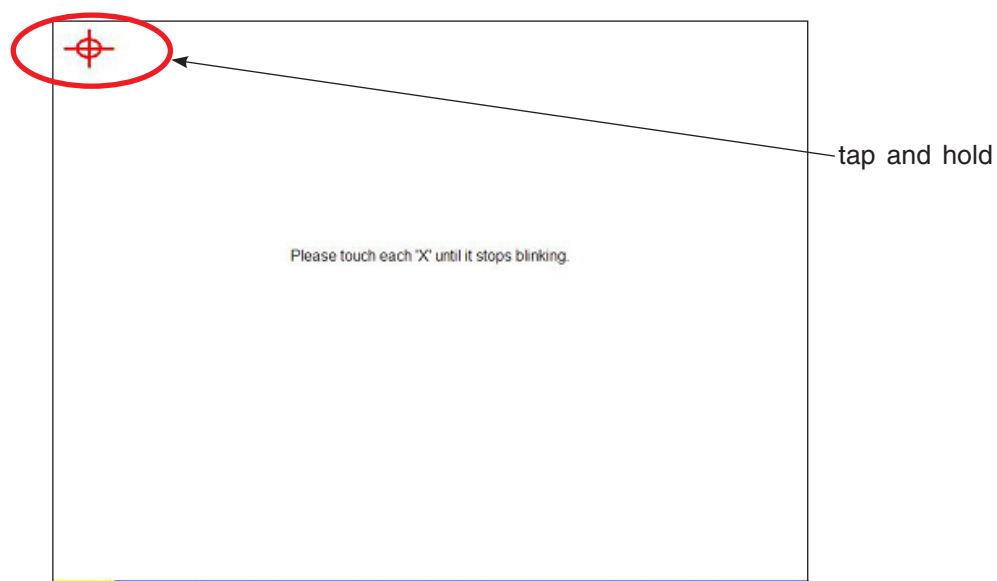
7. tap and hold center of 2nd circle until circle disappear



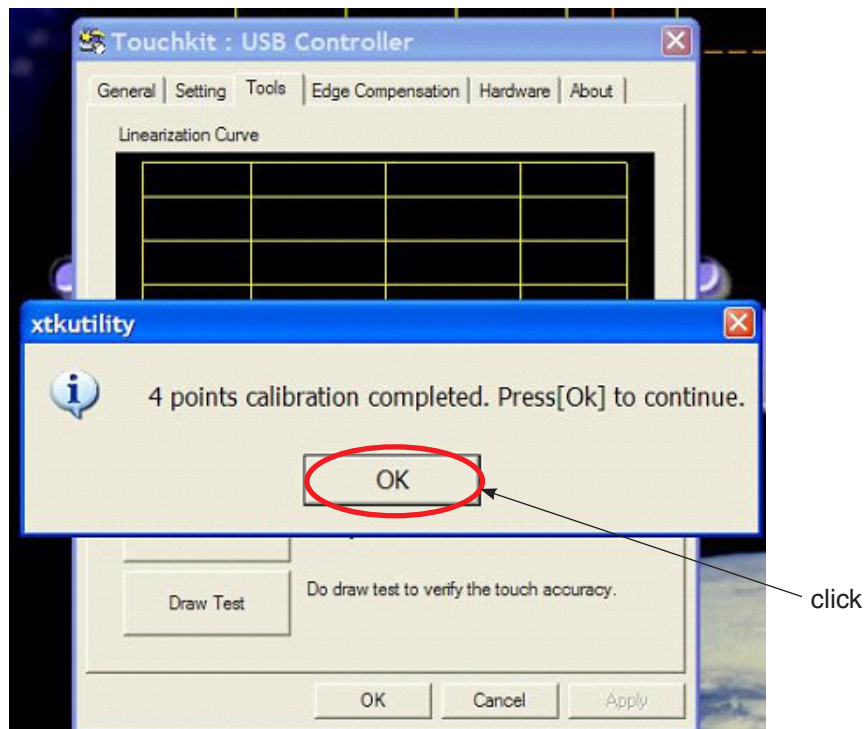
8. tap and hold center of 3rd circle until circle disappear



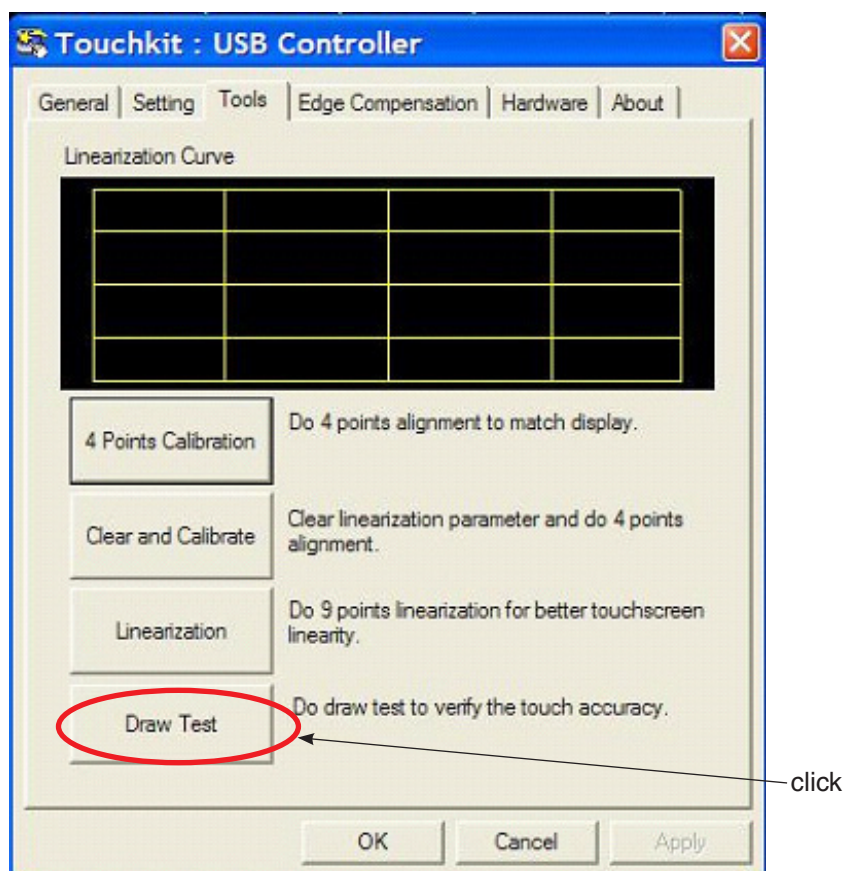
9. tap and hold center of 4th circle until circle disappear



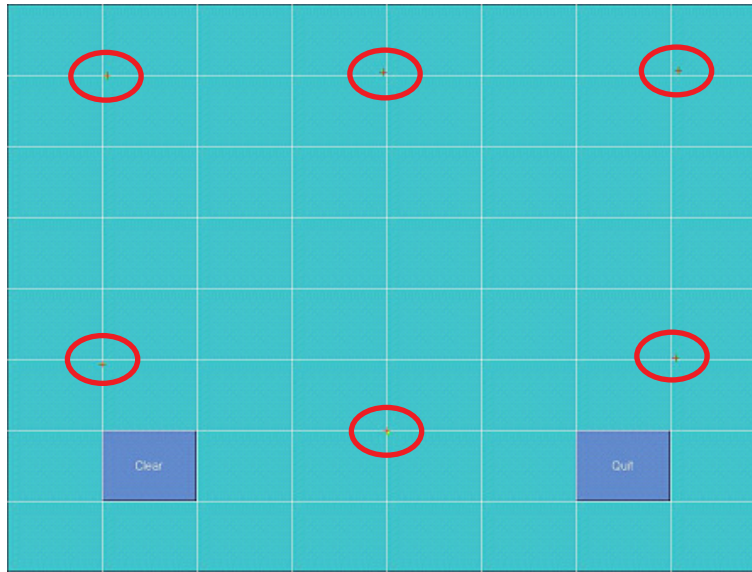
10. you will see message 'calibration is done', then click 'OK'.  
if calibration is failed, power recycling scanner and back to step 4.



11. click 'draw test'



12. please tap 6point shown below, and confirm tapping position match with active position.  
you will see red cross on active position.



13. tap finish to exit draw test



14. turn off scanner

## 6. DISASSEMBLY

### 6.1 Part replacement

#### 6.2 Part replacement procedure

### 6.1 Part replacement

This section provides on-site replacement procedures of parts, assemblies and units. The replacement procedures describe the removal procedures. Installation shall be performed in the reverse order of removal.

The parts numbers used in this manual (e.g., (1) and (2)) are different from the numbers used in the corresponding Disassembly for Maintenance block diagrams (43627301TL) and RSPL (43627301TR).

#### 6.1.1 Part replacement precaution

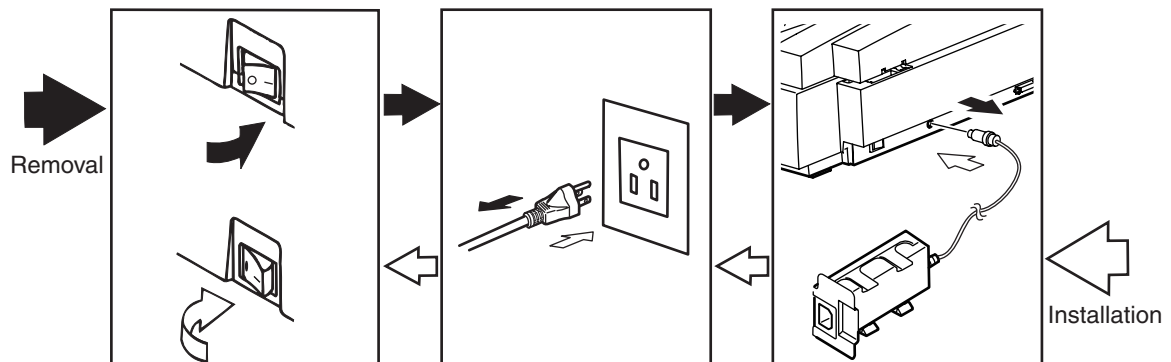
(1) Be sure to disconnect the AC cord and the interface cable before replacing a part.

(a) The AC cord shall be disconnected in the following order:

- ① Turn off " O " the power switch of the scanner.
- ② Remove the AC plug of the AC cord from the AC outlet.
- ③ Disconnect the AC cord and the interface cable from the scanner.

(b) The cord and cable shall be connected to the scanner in the following order:

- ① Connect the AC cord and the interface cable to the scanner.
- ② Insert the AC plug into the AC outlet.
- ③ Turn on " | " the power switch of the scanner.



(2) Do not disassemble the scanner if it is working properly.

(3) Do not disassemble the scanner more than necessary. Do not remove any other parts not specified in the part replacement procedures.

(4) Use the specified maintenance tools.

(5) Disassembling shall be performed in the specified order. Otherwise, the parts might be damaged.

(6) In order to avoid losing small parts such as screws and collars, temporarily fasten them back in place.

(7) When handling ICs or printed circuit boards, such as the microprocessor, ROM, and RAM, do not wear gloves likely to cause static electricity.




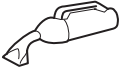
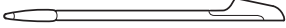
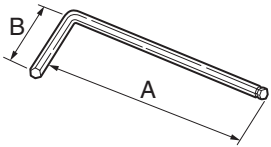
(8) Do not place printed circuit boards directly on the machine or on the floor.

(9) Part replacement shall be performed in a neat, tidy and clean place.

## [Maintenance tools]

Table 6-1-1-1 shows tools required for replacement of printed circuit boards and units.

Table 6-1-1-1 maintenance tools

No.	Maintenance tools	Quantity	Intended use	Remarks
1	 No.2-200 magnetic screwdriver	1	3 to 5 mm screw	
2	 No.3-100 screwdriver	1		
3	 No.5-200 screwdriver	1		
4	 Handy vacuum cleaner	1		Refer to the following note.
5	 Stylus P/N : 43393901	1		Avision's Parts No. 051-1640-0-SP
6	 Ball End Hex Wrench 3mm A:100mm or less B:20mm	1		

**Note!** Use a vacuum cleaner dealing with toner. Using a common vacuum cleaner may cause fire.



## 6.2 Part replacement procedure

This section provides replacement procedures of the parts and assemblies shown in the disassembly system diagram below.

[Disassembly system diagram]

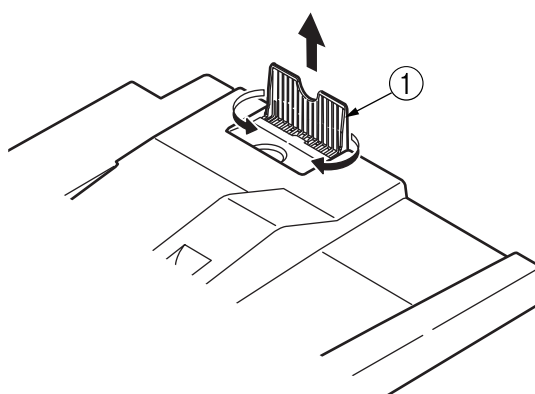
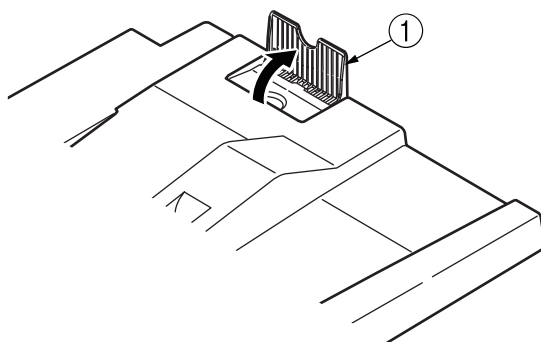
			Remarks
Scanner	1 ADF Unit	1 ADF PAPER STOPPER	
		2 SEPARATION ROLLER	
		3 ASS'Y PAD	
		4 PCBA (for ADF)	
		5 ASS'Y HINGE LIGHT / HEAVY	
		6 ASS'Y TRAY	
		7 ADF ROLLER	
	2 FLATBED Unit	1 COVER PANEL LEFT ASS'Y	
		2 COVER PANEL RIGHT ASS'Y	
		3 LCD ASS'Y	
		4 COVER SPACER PANEL ASS'Y	
		5 ASS'Y MAIN BOARD	



## 6.2.1 ADF Unit

### 6.2.1.1 ADF PAPER STOPPER

- (1) Open by rotating ADF PAPER STOPPER ① in the direction of the arrow.
- (2) Pull up ADF PAPER STOPPER ① by bending either supporting point of ADF PAPER STOPPER ① in the direction of the arrow.

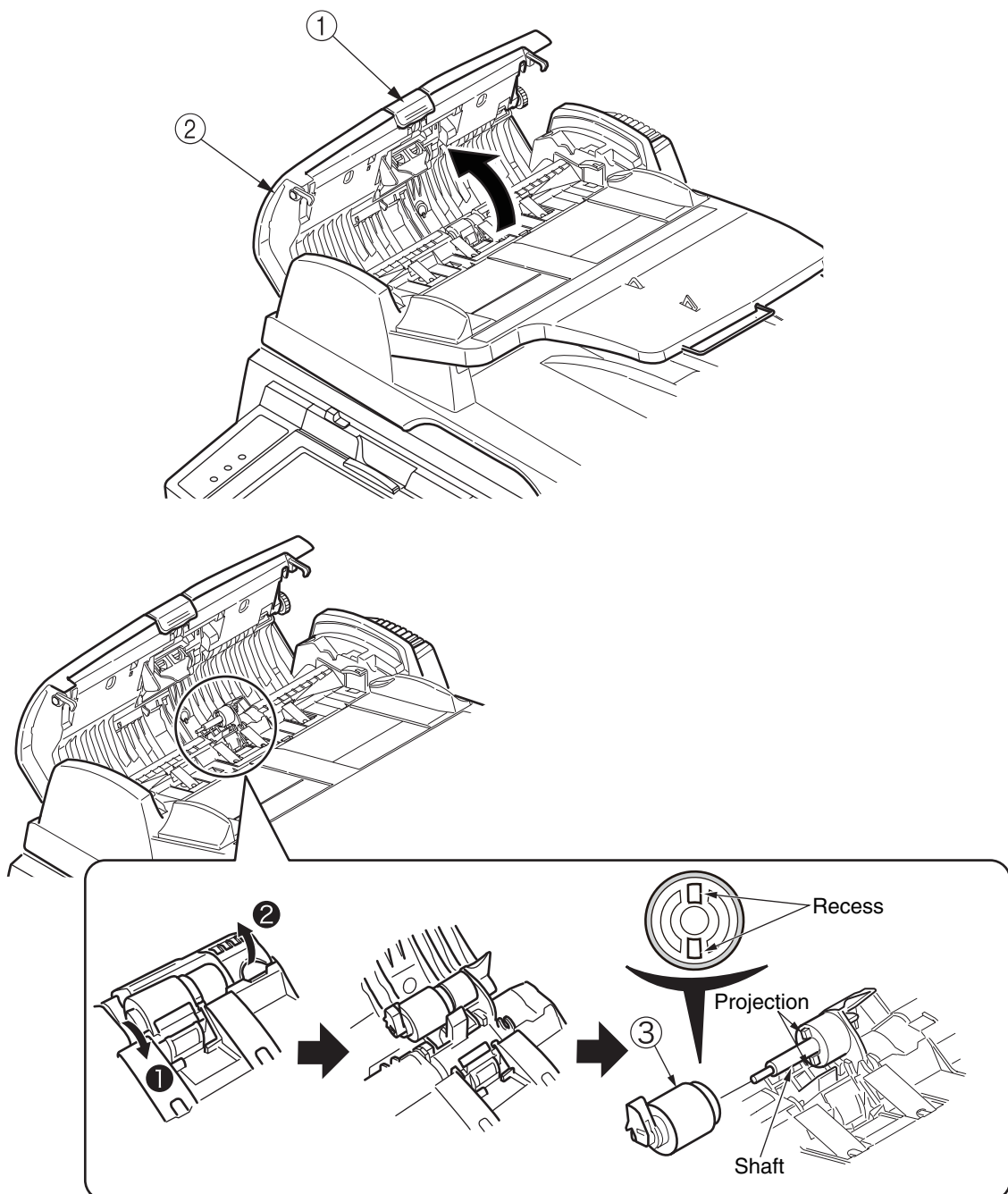


### 6.2.1.2 SEPARATION ROLLER

- (1) Pull the Cover Open lever ① and open ADF Front Cover ② until it is locked up in the direction of the arrow.
- (2) Move the Lock Lever and Holder separation roller in the directions of the arrows in order from ① and ②, and remove the Separation roller ASS'Y ③ from the shaft.

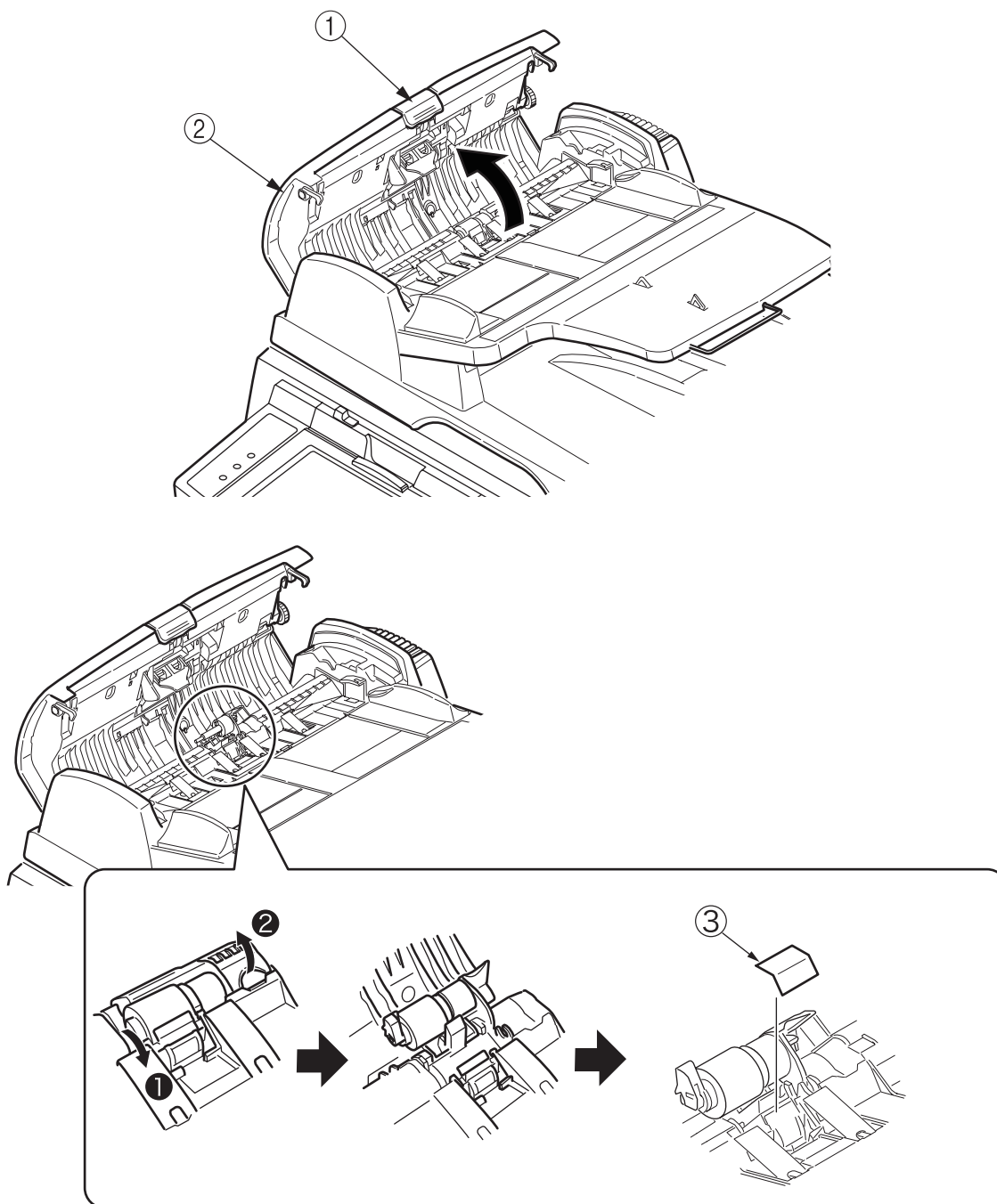
<Precaution for Installation >

Install the Separation roller ASS'Y ③ by aligning the recesses of the separation roller ASS'Y with the projections on the shaft.



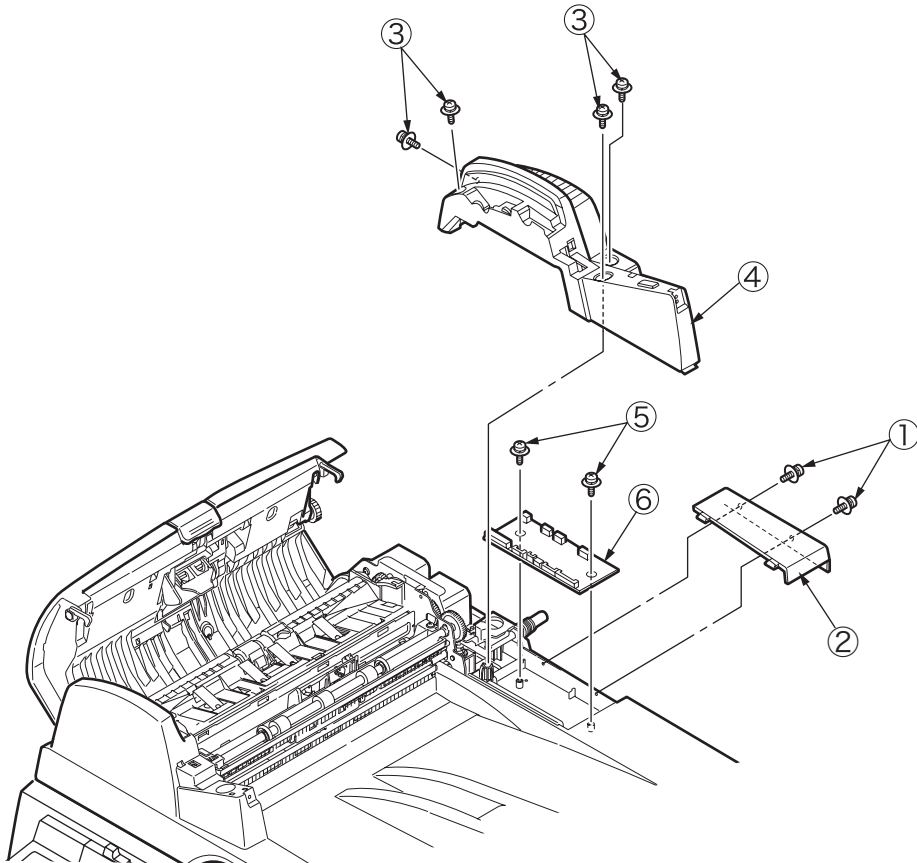
### 6.2.1.3 ASS'Y PAD

- (1) Pull the Cover Open lever ① and open ADF Front Cover ② until it is locked up in the direction of the arrow.
- (2) Move the Lock Lever and Holder separation roller in the directions of the arrows in order from ① and ②, and remove the ASS'Y PAD ③.



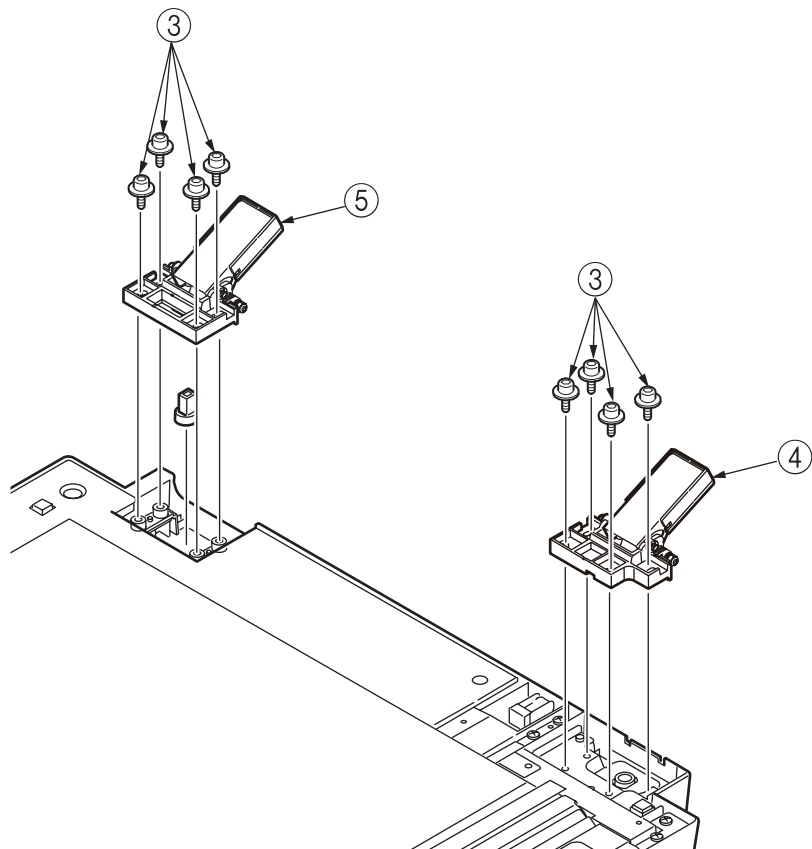
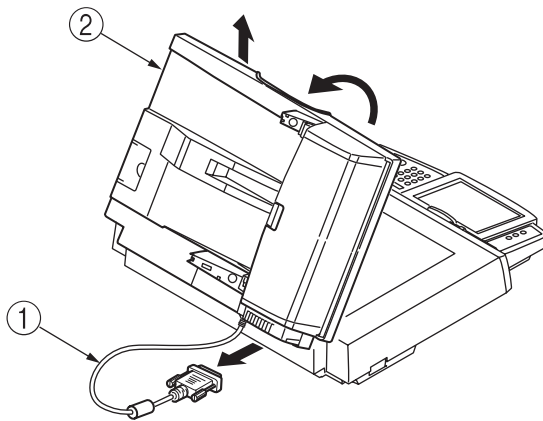
#### 6.2.1.4 PCBA (for ADF)

- (1) Remove ASS'Y TRAY. (See 6.2.1.5.)
- (2) Take out two screws ① and remove the PCB cover ②.
- (3) Take out four screws ③ and remove the Rear cover ④.
- (4) Disconnect all connectors and the FG cable from PCBA ⑥, take out two screws ⑤ and remove PCBA ⑥.



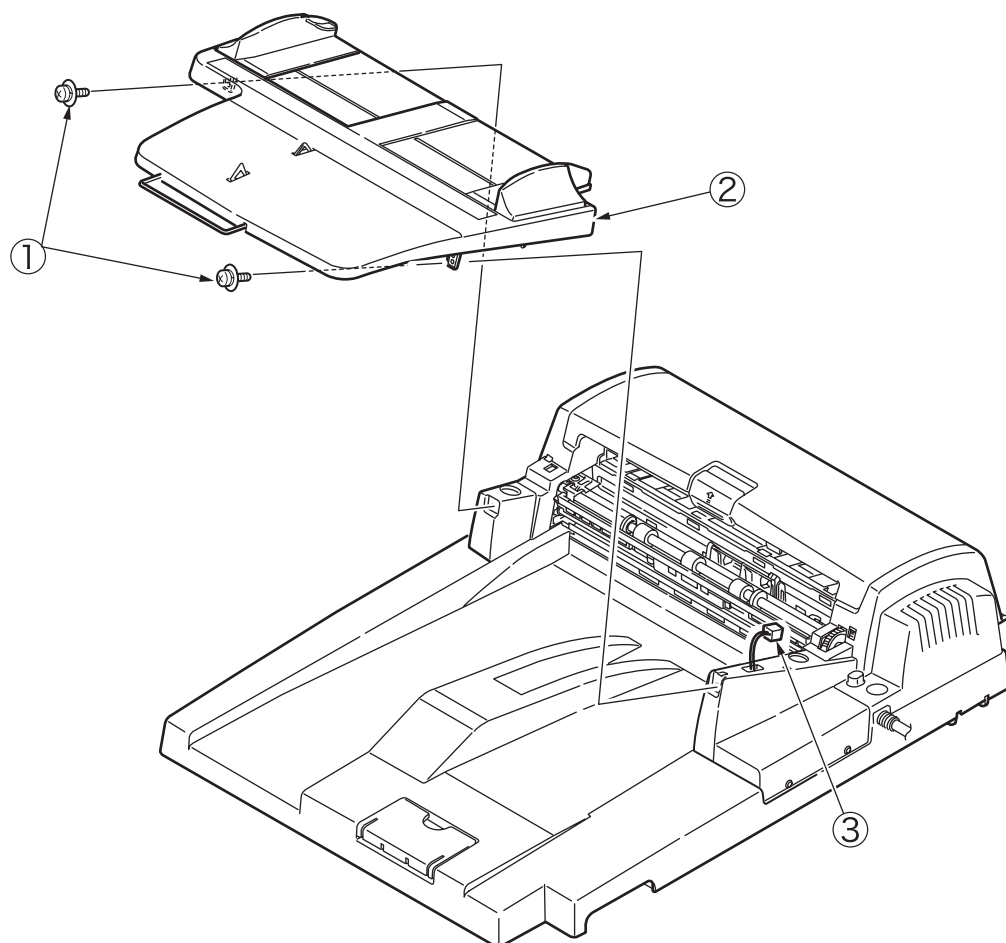
#### 6.2.1.5 ASS'Y HINGE LIGHT / HEAVY

- (1) Remove the ADF Cable ① and open and pull the ADF Unit ② . Then, turn the ADF Unit ② back.
- (2) Take out the eight Screws ③ to remove ASS'Y HINGE HEAVY ④ and ASS'Y HINGE LIGHT ⑤ .



### 6.2.1.6 ASS'Y TRAY

- (1) Take out two screws ①.
- (2) Disconnect the connector ③ from ASS'Y TRAY ② and remove ASS'Y TRAY ③.

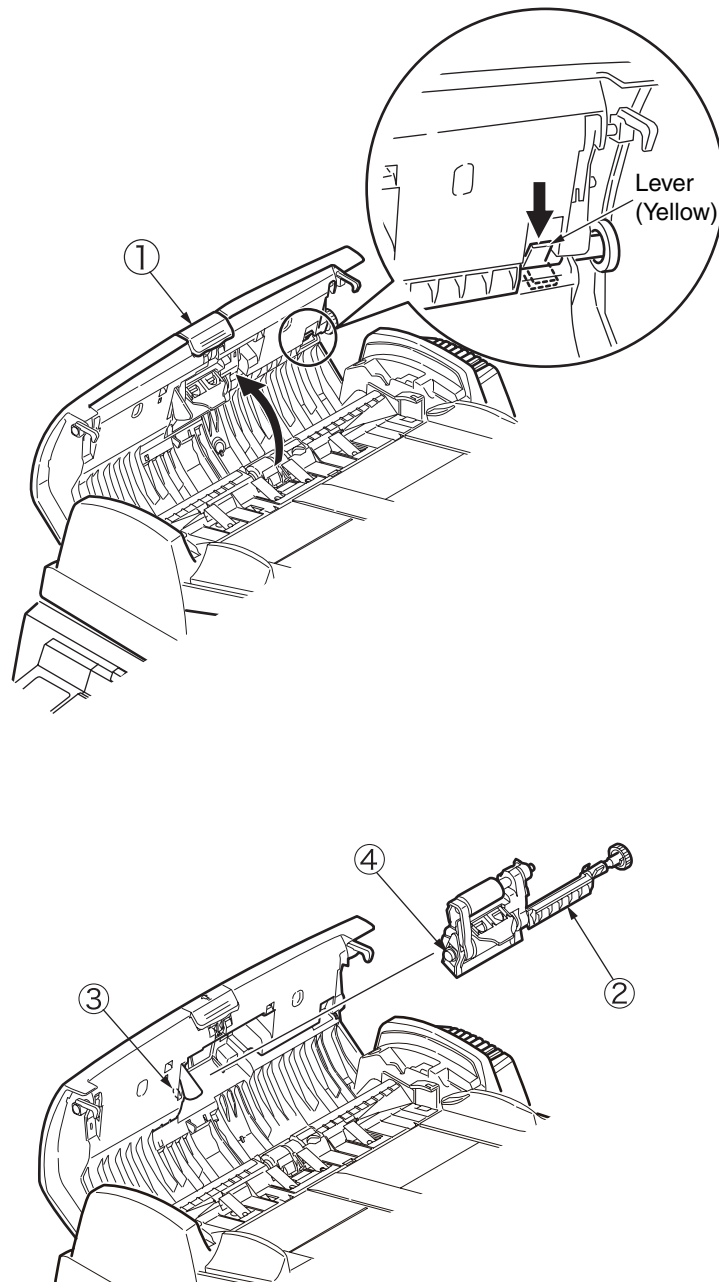


### 6.2.1.7 ADF ROLLER Maintenance kit

- (1) Open the scanner cover ①.
- (2) Move the lever (yellow) of ADF ROLLER ASS'Y② in the direction of the arrow and remove ADF ROLLER ASS'Y ②.

#### <Precaution for Installation >

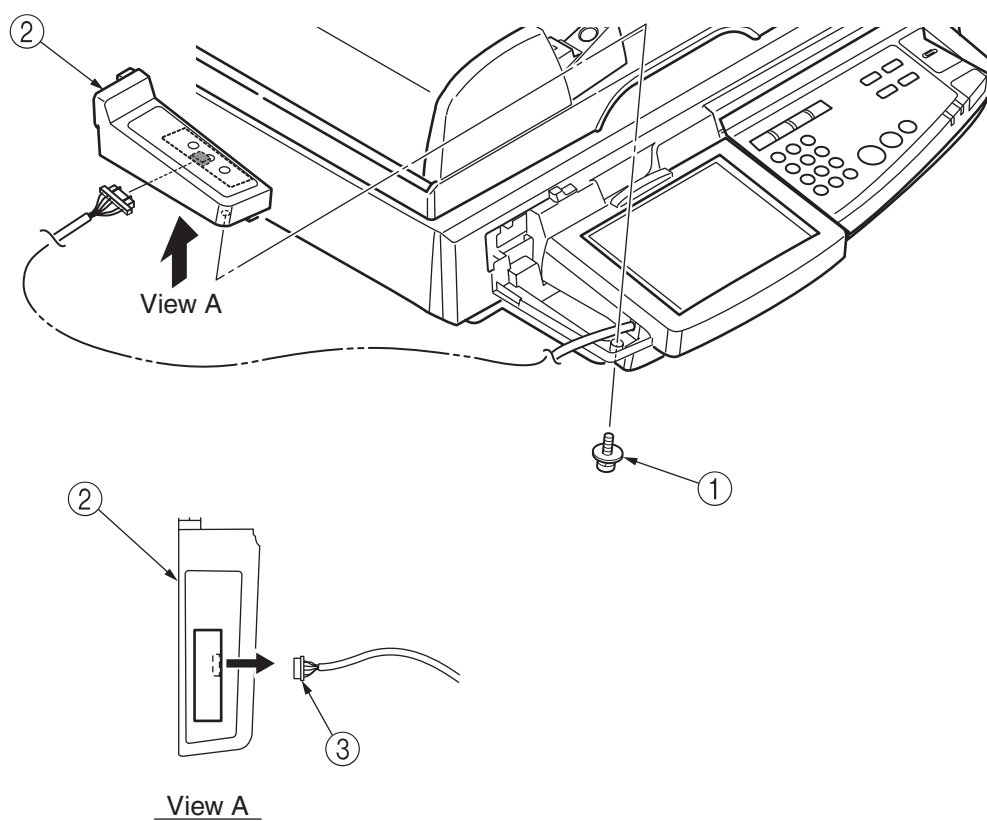
At the time of installation, check that the bearing ③ is pushed all the way in the hole ④.



## 6.2.2 FLATBED UNIT

### 6.2.2.1 COVER PANEL LEFT ASS'Y

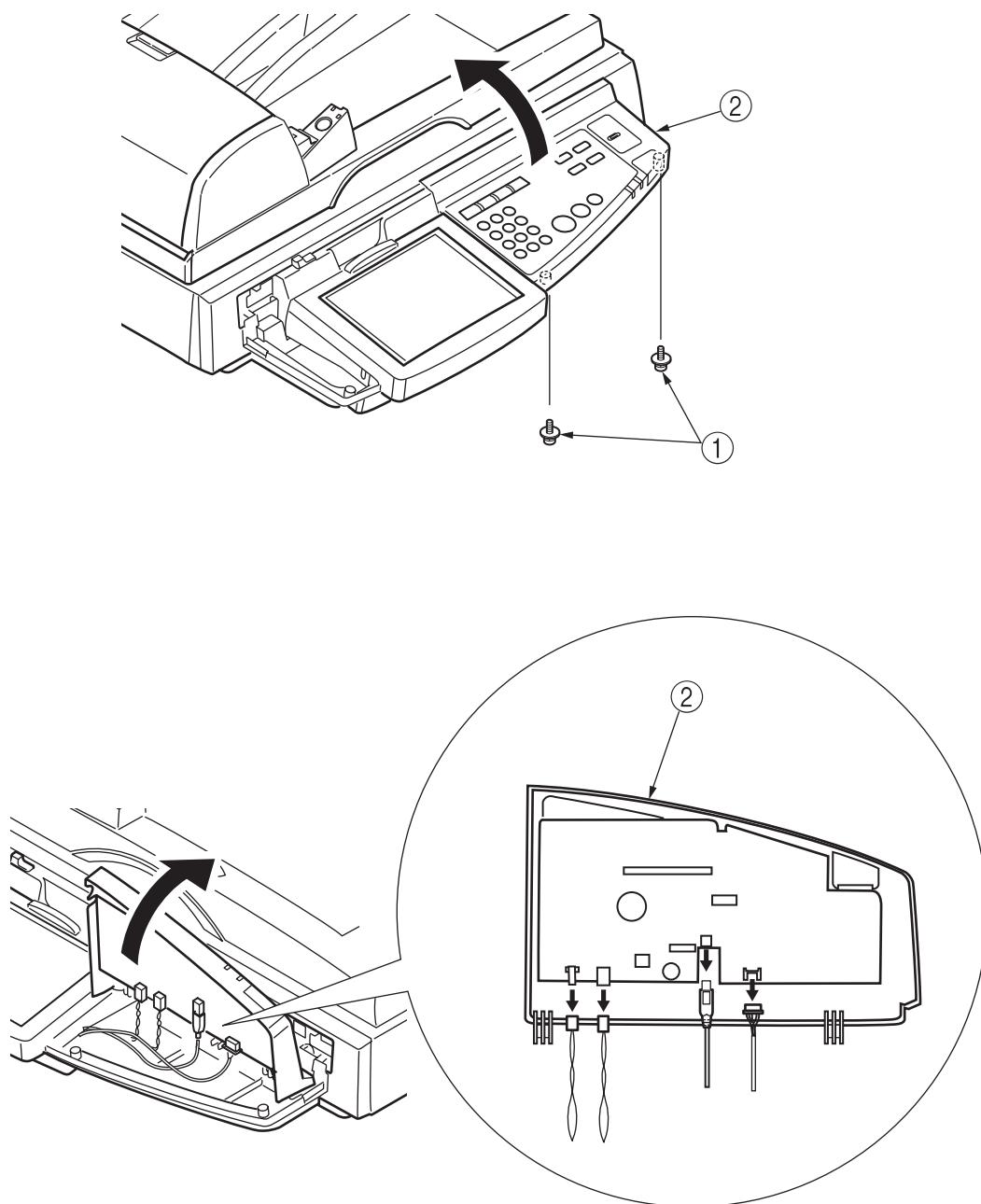
- (1) Take out the Screw ① to remove COVER PANEL LEFT ASS'Y ②.
- (2) Remove the Connector ③.





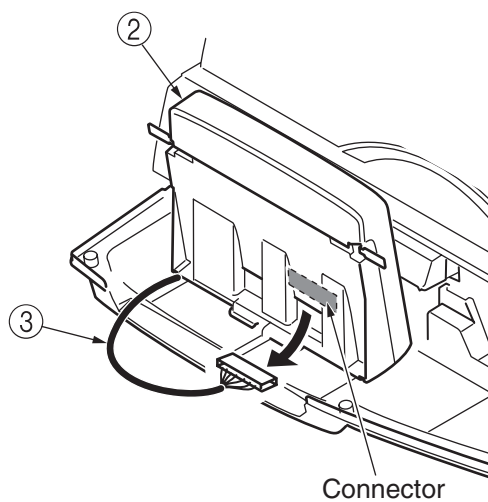
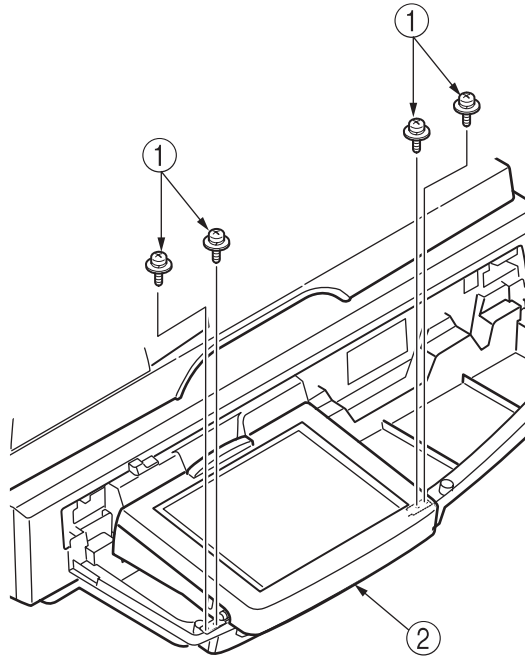
## 6.2.2.2 COVER PANEL RIGHT ASS'Y

- (1) Take out the Screws ① to remove COVER PANEL RIGHT ASS'Y ②.
- (2) Remove all Connectors.



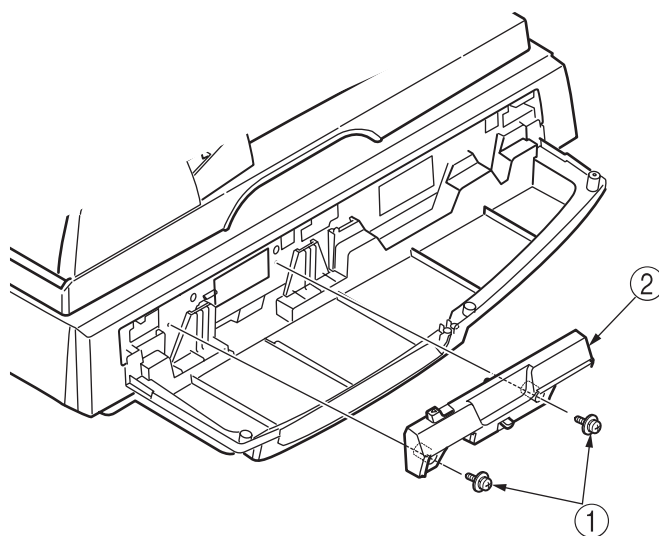
### 6.2.2.3 LCD ASS'Y

- (1) Refer to Section 6.2.2.1 and 6.2.2.2 to remove COVER PANEL RIGHT ASS'Y and COVER PANEL LEFT ASS'Y.
- (2) Take out the Screws ① to remove LCD ASS'Y ②.
- (3) Remove a Connector of the Cable ③.



#### 6.2.2.4 COVER SPACER PANEL ASS'Y

- (1) See from Section 6.2.2.1 to 6.2.2.3 to remove COVER PANEL RIGHT ASS'Y, COVER PANEL LEFT ASS'Y and LCD ASS'Y.
- (2) Take out the Screws ① to remove COVER SPACER PANEL ASS'Y ②.



#### 6.2.2.5 ASS'Y MAIN BOARD

- (1) Refer to Section 6.2.1.8 to remove the ADF unit. Then, move FLATBED UNIT ①.
- (2) Remove the Screws ② and all Connectors.

